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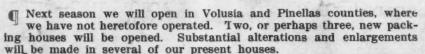
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The Best

Expanding the Sales Service Which Means So Much to Florida Growers



Each year our business in Florida has grown considerably. We already have under contract for next season more tonnage than we have handled in this, our largest season to date. Prospects for additional business are excellent.

Applications from growers for us to furnish service in other sections must be held up for the time being. Competent men, trained in our methods, are necessary for successful expansion. Therefore, our capacity to expand is limited.

Also, we have no ambition ever to become the largest selling agency handling Florida citrus fruits. Our aim is solely to be the best, serving growers of good fruit with an intensive selling and merchandising service which will obtain for that fruit its fullest value.

American Fruit Growers Inc.





Quality

Recent Road Runs Showing Franklin Road Ability

00 MILES IN 4 HOURS, 22 MINUTES

Averaging 45.78 miles per hour E. A. Witte of Camden, N. J.

432 MILES IN 10 HOURS, 30 MINUTES

Louisville to Cincinnati to Indianapolis to Louisville
Averaging 41.14 miles per hour
E. G. Coffey of Louisville, Ky.

501 MILES IN 10 HOURS, 48 MINUTES

Averaging 46.38 miles per hour Ora Zimmer of Champaign, Illinois

773 MILES IN ONE DAY

Over Illinois roads, starting from Champaign

Two prospective buyers who had never before driven a Franklin alternated as drivers

478 MILES IN 11 HOURS, 15 MINUTES

Averaging 42.48 miles per hour Dr. Durham of Louisville, Ky.

683 MILES IN ONE DAY

20½ hours, actual running time E. C. Hunt, Jr. of Flushing, N. Y.

3518 MILES IN SEVEN DAYS

Averaging over 500 miles per day E. L. H. Stevens of Flushing, N. Y.

10,265 MILES IN 24 DAYS

Averaging over 429 miles per day Ora Zimmer of Champaign, Ill.

778 MILES IN ONE DAY

Over California and Oregon roads Rupert Larson of Los Angeles, Calif.

402 MILES IN 10 HOURS, 12 MINUTES

Syracuse to Ottawa, Can. and return

Charles Huddleston of Syracuse,

331 MILES IN 7 HOURS, 33 MINUTES

Detriot to Grand Rapids and return

Averaging 43.84 miles per hour C. B. Messmore of Detroit, Mich.

455 MILES IN 14 HOURS

Canastota, N. Y. to McKeesport, Pa.

Dr. G. M. Pierce of McKeesport, Pa.

ACROSS THE CONTINENT IN 13 DAYS

Syracuse, N. Y. to Stockton, Calif. Total of 3720 miles—averaging 286 a day. Car just delivered—

brand new
E. P. Llewellyn of Stockton, Calif.

Some of these runs were made by owners in the course of regular use. Others, by Franklin salesman while demonstrating the car to prospective owners. In only four cases did the driver start out with the express purpose of setting a record. All were made with stock cars.

The Franklin can out-distance others over a day's run because it can maintain a faster average pace over all going. Its safety and easy handling permit this—its riding comfort encourages it. Particularly with the 1924 Model—the greatest car Franklin ever built.

1924 Franklin

The Greatest Franklin in 22 Years

OWEN-FRANKLIN MOTOR CO., Tampa, Fla. FRANKLIN-MIAMI CO., Miami, Fla. FRANKLIN MOTOR CAR CO., Orlando, Fla.

There is every assurance that the Citrus Industry of this state is soon going to be on a firm substantial footing.

The grower may expect fair prices for his product next winter and in the years to come.

The forward looking planter will therefore lay his plans to round out his acreage and right now reserve the choicest trees to insure his getting exactly what he wants.

"Glen Trees Grow"

Glen Saint Mary Nurseries Company

Winter Haven

Florida

Glen Saint Mary

Over forty-two years of Satisfied Customers has made this the largest Citrus Nursery in Florida.





An Adequate Sales System and Selling Organization Offered to Growers by the Florida Citrus Exchange

Assured of control of a substantial majority of the State's citrus production, for the first time in its history, the Florida Citrus Exchange will next season operate under a sales system and with a seliing organization changed, enlarged and expanded to meet new conditions.

Under the new selling plan, which will be directed by a sales committee of five experienced fruit men from the board of directors, acting in conjunction with the business manager, the sales manager, the dvertising manager, the Sub-Exchange managers and the chief inspector, fruit will be sold as follows:

On a cash basis f. o. b. Florida, whenever advantageous offers can be secured.

On definite orders from northern markets f. o. b. packing house, to the largest possible extent.

In auction markets, when advisable, these to be supported with fruit of the quality best adapted to their requirement, enabling them to maintain price levels which will stimulate higher prices in private sale markets.

The sales department of the Exchange will be composed of

A general sales manager,

A sales manager acting as his chief aid,

Five or more assistant sales managers, each in charge of specified portions of the country,

Divisions sales managers at central points in the north to maintain proper supervision of district managers,

District managers located in the principal markets of the country, each covering intensively a limited territory,

Branch sales office managers in appropriate cities of Florida, to handle transactious with local carlot buyers.

Consumer demand will be created by proper and sufficient educational work including

Magazine advertising,

Newspaper advertising,

Street car and other "reminder" advertising,

Booklets of citrus recipes for distribution to housewives,

Demonstrations, in stores and food shows; special sales in grocery and department stores,

Store display material, for use in connection with demonstrations, special sales, etc.

An advertising sales service, to show retail dealers how best to merchandise citrus fruits.

The sales department will maintain an efficient inspection service. Selling policies are to be aggresive in the development of markets not now handling a preponderance of Floride fruits and in holding established markets. Consumer demand created on any particular quality of fruit is to be maintained by continuous supply of like quality as far as possible. Customers for specified packing house brands will be protected by regular shipments of such brands.

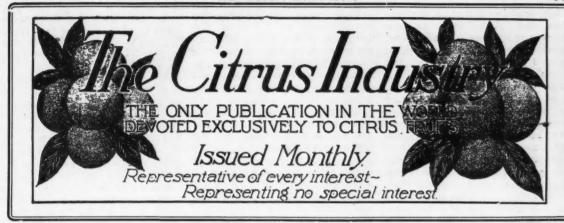
specified packing house brands will be protected by regular shipments of such brands.

The growers who form the Florida Citrus Exchange invite to their ranks other growers with full confidence that they will find cooperative marketing feasable and profitable. The sale system of the organization has been expanded in recognition of the increased volume of fruit now signed up for next shipping season. The directors and officers of the Exchange will not hesitate to make further changes in operating plans or personnel, consistent with reasonable selling costs, as it is found these are required to return the high dollar for the fruit grown by members.

For further information consult the managers or officers of the local association nearest to you, see the manager of the Sub-Exchange in your territory or write to the

Florida Citrus Exchange, Tampa, Florida





Vol. 5

TAMPA, FLA., MAY, 1924

No. 5

Some Observations on Citrus Root Stocks

By R. E. Skinner, Tampa, at meeting of State Horticultural Society

The first groves planted in the state of Florida were seedling groves. But we soon began budding from particular trees which in turn became known as varieties because there were certain desirable characteristics which these parent trees possessed that we wished to be reproduced uniformly throughout the grove.

The question of root-stocks was next. Many have been used but years of experience have finally practically eliminated all but three or four, the sour orange, the rough lemon, the grapefruit, and the trifoliata, each having qualities that make one more desirable than another under certain conditions affecting the factors of grove production.

Let us consider for a minute what are the factors influencing the compararative yield, quality of fruit and life of any particular citrus trees of any particular variety.

They are:

- Variations in the individual tops due to bud variations or mutations.
- (2) The kinds of root stocks used and their characters collectively and individually.
- (3) Congeniality of root stock and scion.
- (4) The nature of the soils on which they are grown.
- (5) The susceptability to disease and insect pests and the degree of control excercised over them.



R. E. Skinner

- (6) The methods of cultivation and fertilization used.
- (7) The hardiness of the combined tree and stock and climatic adaptability.

Let us see how these factors influence the choice of a root stock, or having already a grove what influence the stocks have on the yield, quality of fruit and life of the tree.

Let us consider the factor of hard-

iness of the root stock and its influence on the tree. Trifoliata is the hardiest of all, and as it thrives best in northwest Florida it is sufficient to say that there is where it belongs. It is not generally suited to south Florida.

It is conceded that the sour orange root is more cold resistant than grape-fruit or lemon, and desirable for that reason wherever soil conditions or cultural methods will permit of its use. It tends to keep the tree in a more dormant condition throughout the winter. Grapefruit root stocks are probably more hardy than lemon but I believe have a strong tendency to grow with every warm spell during the winter period.

The factor of congeniality of stock and scion is an important one. We know that with sour orange root and a satsuma bud there is nothing doing. This is an extreme case of lack of congeniality. But it is apparent to the careful observer that the sour orange is characteristically more like the sweet orange varieties than is the lemon, in rate and nature of growth, in the period of winter dormancy and in character of fruit produced. The pineapple orange bears out this factor very clearly by producing fruit of higher color, smoother texture and less rag on sour stock than on the lemon root. The practical value of this congeniality of root and scion is well illustrated by results of sales

made by one member of the Exchange this season. This man had pineapple oranges on both sour orange and rough lemon stock in the same grove but he packed the two separately and sold them on the auction at the same time. The fruit from the sour orange root netted him from \$1.50 to \$2.00 a box on the trees, whereas those from the lemon root netted less than fifty cents. The Parson Brown develops its color, sweetness and character satisfactorily on the sour orange stock whereas it is not satisfactory on lemon. Valencia oranges retain their juice and characteristic flavor longer on sour orange than on lemon. Some maintain that after an orange tree on lemon root attains a certain age it improves in quality, but I doubt if a lemon root tree ever got old enough to improve sufficiently to equal the same variety on sour orange. The tangerine is probably not any too congenial with either rough lemon or sour orange but will undoubtedly retain its quality later in the season on sour orange than or lemon.

With grapefruit varieties, however, the lemon root seems quite as congenial as the sour orange. One would naturally suppose grapefruit on grapefruit root would be an ideal combinotion of scion and stock. But experience seems to refute this except in a few instances. Grapefruit stock seems to incline to alternate bearing or even to a still greater degree of uncertanity of production. It is interesting, however, to note that in this matter of congeniality, grapefruit will hold pineapple oranges longer on the trees than either sour or lemon. It also tends to produce a tough, more leathery peel in round oranges than either lemon or sour orange.

The nature or kind of soil on which fruit are grown is an important factor influencing not only the quality of fruit produced but the stock on which the trees should be grown. The natural habitat of the orange in Florida is in the rich hardwood hammocks. The quality of fruit produced here is far superior to that on higher drier soils which we hear so often spoken of as citrus soils. A misnomer for which the use of lemon root stocks is responsible. The freeze of 1895 drove the citrus growers from the rich hammocks of northern Florida to the sand hills further south, and on these sand hills lemon root produced quick results. Taken in their native habitat, the heavier richer soils of the state, it is doubtful if trees on lemon root will grow any faster on lemon than

on sour orange stock after the first two or three years. But on the Norfolk sands of the rolling phase the lemon root is at home. It grows far faster and produces paying crops at an earlier age. For volume of production on sandy soils, the lemon root is superior to sour orange or grapefruit and has only one rival. But this together with its ability to resist drought are its only redeeming features. On these soils sour orange and grapefruit root may be used, but more attention must be given to adding humus to the soil and building it up to a condition of sufficient fertility. The lemon root will stand more variation in moisture supply than the sour orange or grapefruit, and will stand up under more severe conditions of drought. On the other hand sour orange and grapefruit roots are more tolerant of wet soils, but even with them it is well to secure good drainage to a depth of two or three feet.

As to the susceptibility of root stocks to disease, the chief malady is foot-rot or maldegoma. Foot-rot has eliminated many trees on lemon as well as on sweet orange root and even the grapefruit root is subject to its attack. Sour orange is quite immune to this disease.

Methods of cultivation used on different soils materially affect the growth of the trees and quality of the fruit grown. Here is the first opportunity for the grower with oranges on lemon stock on high sandy land to improve the quality of his fruit. It is customary to cultivate the young non-bearing groves intensively. and this method is continued to a large degree after the trees come in bearing. This artificial stimulation of root development tends to upset the normal equilibrium in the tree and though it produces perhaps larger crops, it also makes the fruit coarser than it would otherwise be, and induces drying out of the fruit at the stem end early in the season. If we will stop ploughing our lemon root groves after they come into bearing, harrow and hoe sparingly and shallow, use the mower to keep down a too rank growth of grass, we shall soon be approaching that much desired goal of high quality in our product, with greater satisfaction to the consumer and larger net returns to ourselves. I have eaten mid-season oranges and tangerines this month, grown on lemon root under non-cultivation that were full of juice and of fine quality. With non-cultivation chemical fertilizer should be the principal kind used, but an occassional application of well rotted organic material worked in very lightly will help greatly to maintain the proper physical and biological conditions of the soil.

So much for the different kinds of root stocks taken as a whole. Let us now consider the individuality of seedlings used as root stocks. We know that Mr. Shamel in California has shown us a very important variation of individuals of a single variety where the difference was due to bud variation. How much more is it to be expected that we will have even greater variations in the individual seedlings to be used for root stocks where each individual is a new and distinct being, subject to all the variations inherent in seed reproduction.

Dr. H. J. Weber in California has pretty conclusively proven this to be a fact and further, he has shown us how to select these seedlings to greatly improve the vigor and size of budded trees in any grove to be planted. We know it to be a fact that in the past the nurseryman has obtained a quantity of seed of rough lemon, sour orange, grapefruit or what ever variety or rather I should say class of root stock he wished to raise. He planted the seed. Transplanted the seedlings to the nursery row from the seed-bed without much regard for the very considerable variation in size, thriftiness and type of the individual seedlings. Then he budded them and later sold them out-the larger ones first, then the intermediates and later perhaps after a year of waiting cleaned up the block by selling out what had been the smallest ones.

In all probability those first large trees sold grew uniformly well and made large trees for their age and produced large crops. The small ones sold out a year later in all probability produced a grove of great irregularity falling further and further behind the first ones in size and productivity.

A few figures and statements here on the work of Dr. Webster will serve to bring out the point and also show how great is that difference in individuals of the same scion parentage, but on different individual roots of the same kind or variety.

In 1914 a batch of sweet orange seed-bed stock was sorted over and 15 per cent of small stock discarded. The rest were grown in nursery form for one year and then budded to navel, Valencia and Marsh Grapefruit. In 1917 an inspection showed the nursery to be a more than ordinarily uniform one in the size of the trees, the buds

being then two years old. Small trial plantings of different sized nursery trees were made using small, intermediate and large trees from this nursery. These were planted on uniform soil arranged so that there was a row of large trees, then a row of small trees, then a row of intermediate ones.

In 1919, after two years in the grove, the differences in size were just as marked as in the beginning and in the same relation to each other. The degree of difference in size of one group over the other was approximately two years growth. Expressed in cubic feet occupied by the tops we have some very interesting figures:

In April 1919, after two years in the grove.

Variety	Large	Intermed.	Small
Navel			
Oranges	31.25	11.68	7.25
Valencias	16.78	9.03	7.49
Grapefruit	15.24	9.16	6.17
In May 1922,	five ye	ars in the	grove.

In May 1922, five years in the grove See note.

Navels Valencias	190. 286.	118. 170.	89.65 179.

Each set of trees has retained its same relative rank with the single exception of the "Small" Valencias in 1922 which have a very slight lead over the intermediate Valencias.

While there are no definite figures available yet as to the relative yields of these sets of trees, observations made at different times established the fact that the yield on the large trees has been far heavier than on any of the other grades, and approximately it has been double that of the small trees.

That experiment of Dr. Weber's out in California ought to make us sit up and take notice the next time we plant any trees.

There is one sixty acre Valencia grove (owned by William Hertrich) two miles from Pasadena, California which is a commercial planting and which, by mere chance, bears out this fact of variation in vigor of individual root stocks to a surprising degree. Briefly the history is this:

10,000 sour orange seed-bed stock bought in 1913. 5,000 smallest discarded. 5,000 nursery trees obtained. The largest of these budded in Spring of 1914, rest in Fall of 1914. 20 acres planted July 1916 with selected largest trees from the above mentioned block of nursery, then in March 1917, 20 acres planted with second selection of intermediate trees, and finally, 20 acres planted April 1917 with the residue. After five years: First block;

trees unusually large, vigorous, uniform and fruitful. Average height ten feet. Second block; trees made fair growth, rather uniform but some undersized trees, and practically none as big as smallest in first block, averaging five to seven feet high. Third block; very irregular in size, mostly small unsatisfactory trees, averaging four to five feet. In other words the first block has twice the bearing area of the second block and four times that of the third block.

The moral is, select a good type of trees from which to take your seeds, cull them mercilessly and prodigally in the seed bed, do it again in the nursery before budding, and then select only the best buds for planting. The trees will cost twice as much but the resulting grove will be worth four times as much when it comes in bearing.

I believe there is a way for us to correct this variation in individual trees even after the grove, which has been planted with the nursery run of trees, has attained bearing age. Top work them on the bottom. Get the most vigorous sour orange seedlings (if you have a sour orange soil) plant three or four at a forty-five degree angle around the trees, so that as soon as they become established they can be inarched into the bearing trees. In two or three years you will have doubled the root system of these trees.

And this brings me to the hope of the rough lemon root grove owner who wants to improve the quality of his fruit. I spoke a few minutes ago of non-cultivation as a step in the right direction; but I believe there is another way by infusing new blood of the desirable kind into that root-system. I mean inarch those trees with Cleopatra seedlings, on all but the low hammock (sour orange) soils.

And from now on through this talk, I am going to take the part of Antony and tell you of the virtues of this Queen of Root Stocks, Cleopatra.

You all know the old saying, "Handsome is as Handsome does." Well that's Cleo all over.

Let us go back and review those factors that I mentioned as determining the yields and quality of fruit and see how easily Cleopatra wins the bathing beauty contest.

First there is hardiness. Cleopatra seedlings at Gainesville in January 1924 were but slightly affected by a temperature of 22 degrees while sour orange was badly scorched. Cleopatra is fully thirty days later in starting

growth in the Spring. This characteristic of Cleopatra of being more completely dormant for a longer period will tend to make the trees budded on it not only more hardy enabling them to stand lower degrees of temperature, but also more consistent bearers.

Concerning root stock and the cold resistance shown at Gainesville during the January 1924 freeze, Mr. O'Byrne says, "In each and every case that I know of rough lemon seedlings were killed clear to the ground at Gainesville, Grapefruit seedlings were next. and were almost as severely damaged as the rough lemon. Sour orange seedlings were much more cold resistant but they were killed back badly. We had some bitter sweet stock in a different part of the nursery which with a few exceptions was unhurt by the cold. Unfortunately we could not draw any conclusion from this as they were on much higher land than the other seedlings referred to. However. we are inclined to believe that the bitter sweet tree is more cold resistant than the sour orange. Cleopatra seedlings in rows immediately adjacent to the rough lemon, sour orange, and grapefruit seedlings of the same age, were much more cold resistant than any altho they were in full growth at the time of the cold. It seems that for some reason they are not as severely damaged by cold when they are in full growth as the three previously named varieties. Almost none of them were killed to the ground. We have been greatly encouraged by the showing made by Cleopatras at Gainesivlle during the January freeze. I am also told that the Cleopatras came through the freeze in Alabama. I can not conscientiously say that at Gainesville they were as cold resistant as trifoliata, but they made a good showing and I presume the same statement could be made for Alabama."

Second comes congeniality of root stock and scion. Unquestionably Cleopatra is more congenial to all kidglove varieties, and from all appearances is as thoroughly desirable for round oranges on low lands and even more desirable on high lands.

I do not believe that Cleopatra will produce quite as highly colored Pineapple oranges on low clay or mari lands as will sour orange.

Third there is the matter of soil adaptability. Cleopatra rivals the rough lemon in vigor of growth on high sandy soils, suffers no more from drought, has a more ideal root system and can carry prodigious crops

Continued on page 34

The Marketing of Fruit With Reference to Quality

By Bruce Floyd, American Fruit Growers Inc. at meeting of State Horticultural Society

With all that has been said during the past year with respect to marketing problems, it is rather strange that this basic trouble has not been more generally discussed. It is therefore a pleasure to be able to present some facts and recommendations to the members of the Horticultural Society on this subject.

Since the beginning of time, great rewards have come to those who produced an article superior to the average, and the situation with respect to Citrus fruits is no exception to this general rule. Indeed, a study of any auction sheet clearly indicates that while one grower is receiving little or nothing for his fruit, another grower is receiving most satisfactory returns. Soil and climate conditions have much to do with this situation, and I am not here to say that growing methods can be revolutionized to the extent that all of the fruit produced will be of Fancy quality, however, I do say that many growers will find the production of Citrus fruits unprofitable, unless steps are taken to improve their product to the extent which may be possible, soil, root stock and climate conditions being considered.

The rapid increase in production is a matter so well known that the quoting of figures indicating our yearly increases is entirely unnecessary. Not until this present season, however, has it been possible for many growers to fully realize the differential existing in prices. This by reason of the fact that in former years even the low grade fruit has shown a profit to the growers. With price levels this year averaging a dollar lower than those prevailing during the preceeding year, the producers of low quality fruit have been forced to see this differential, as much fruit of such quality has been sold in the markets for less than freight and packing, despite the fact that vast quantities have been discarded in the groves and in the packing houses.

I believe that many growers honestly consider their product of superior quality when, as a matter of fact, their fruit is not so judged by expert packers, or by the trade. Many growers who admit that the texture of their fruit is poor, still proudly claim that it is "Sweet." Right here, I appearance. It is bought by a public fruit throughout the season, is othereducated to judge commodities by their eyes, and we cannot possibly hope to build up a sufficiently strong demand for Florida fruit simply on the basis of its flavor.

Fruit serves two purposes: First, as a food or drink: second, as an ornament. That which meets the demands of both, and is a food and an ornament has, and always will command a price which will show a profit over the cost of production. That which will serve only as a food has, and will continue to be much less profitable, and in many cases will prove absolutely unprofitable to the producers. When the differential in New York market reaches the point, (as it did on April 11th) that one line of grapefruit sells for \$7.00 and other line sells for 50 sents, there is certainly sufficient incentive to the growers to do any and everything within their power to get out of the 50 cent class and as near the \$7.00 class as they possibly can.

Were Florida the only producer of Citrus fruits it might be a relatively easy matter for us to educate the public to the point that they would not expect the exterior appearance of Florida fruit to be attractive. Coming into competition with approximately twenty five million boxes of California Citrus fruit of better appearance. the odds are against us despite our vastly better flavor, and juiceness, on low grades of fruit.

Melanose, which I consider our greatest pest, from the standpoint of detraction in appearance, and texture, is on the increase. In addition, this fungi is perhaps responsible for as much decay as any other single factor. Growers have not yet been successful in combatting this with spray, without inviting scale and mealy bug, and further damage will no doubt continue in proportion to the age of the trees and the amount of dead wood in them to harbor this pest, until some more successful spray mixture is devised.

Next in order, comes rust mite and scab. Scabby fruit usually goes to the cull pile without exception, and is consequently a total loss to the grower. Rusty fruit, while selling

wish to state that fruit is sold on its for considerably less than bright wise not so serious a factor since we do not find that rust is harmful to the carrying quality of fruit. It is interesting here to consider the fact that growers who have sprayed most consistently through the summer months, and who have until Christmas time, a heavy percentage of Brights, frequently relax in their efforts and allow their crops to become rusty during January and February. Our own shipments until Christmas of this year averaged as follows:

> Brights 37.2 per cent. Goldens 52.3 per cent. Russets 10.5 per cent.

Since Christmas this percentage has changed to the extent that our shipments since that date have averaged as follows:

Brights 30.8 per cent a decrease of 6.4 per cent as compared with before Xmas.

Goldens 47.3 per cent a decrease of 5. per cent as compared with before Xmas.

Russets 21.9 per cent an increase of 11.4 per cent as compared with before Xmas.

It may be of interest to know that of our total volume, 68 per cent has graded Blue Goose, the remainder being distributed between the Second and Third grades.

Not all of this difference is attributable to rust mite, however, a sufficiently large proportion is traceable to rust mite and I trust that this matter will have the consideration of all growers present. Don't relax until your fruit is harvested.

Contemplating these matters strictly from the standpoint of a marketing agency, and considering first, grapefruit, I wish to say that primarialy a "Fancy" grapefruit is oblate, smooth of texture and bright. Without doubt, the greatest single factor militating against the profitable production of grapefruit is oblong, thick-skinned fruit. I cannot blame the consuming public for failure to absorb at satisfactory prices much of the pointed and unattractive grapefruit which we produce. To begin with, such grapefruit is most unattractive in appearance, and in the second place, the edible portion of such fruit is not at all in

keeping with the size of the exterior. In serving the stem-end of such fruit it is necessary for the housekeepers and restaurants to cut off an inch of this elongated skin in order that such grapefruit will rest upon a plate without rolling over. By reason of its large surface, anything which detracts from the appearance of Citrus fruit appears most pronounced on grapefruit. It is, therefore, doubly necessary to maintain the oblate shape and smooth texture of this commodity in order to further increase its sale.

There are many growers who ponder over the discounts which apply on large size grapefruit after January. There is nothing strange about this when the high freight rates to Western points are considered and the consequent additional cost per fruit to the customer is compared with the similiar cost per fruit of smaller sized grapefruit. Had all of the grapefruit from the groves been packed since the first of February, considerably more than half of it would have been manifested as 36s, 46s and 54s. This condition causes 64, 70 and 80 size to be in strongest demand, and such sizes naturally bring a decided premium.

We are carrying our grapefruit on the trees for a much longer time than was the case five years ago. Not enough regard is given to the matter of spot picking large sizes before such fruit is discounted and growers for the past several years have found themselves with unsalable fruit late in the season, which might have earlier in the season, been turned into a profit. Spot picking, together with the muchly needed reduction in freight rates will do much to solve this situation with regard to sizes. Florida has a virtual monopoly on the grapefruit business and a distribution much wider than is the case with oranges. It is, therefore, doubly necessary to raise grapefruit which will be sufficiently attractive to the trade, and to the consuming public, to allow for its still broader distribution and consumption to the extent that it will truly be the Nation's breakfast food.

I am not at all pessimistic over the outcome of grapefruit and believe that grapefruit of good quality will in the future prove as profitable to the growers as oranges. Marsh Seedless is our best grapefruit, and were the thousands of acres of new grapefruit groves planted to this variety and on sour root stock, I would feel still more inclined to believe in the positive success of this commodity.

The marketing of Florida oranges continues to be confined to the area roughly described as East of the Mississippi river. Perishability of our Seedling oranges, high freight rates, and the firm hold which California has maintained on the West will perhaps continue to make the North and East our largest consumers. The South has not bought a satisfactory quantity of packed oranges during the present season and will not do so as long as bulk fruit can be delivered at a little over one-half the cost of packed fruit. Practically all fruit shippers have made shipments of bulk oranges to the Southern markets. Such fruit is usually of unattractive appearance and has been shipped un-packed for the reason that the more critical markets would not pay a price justifying its packing. The shipping of bulk fruit is not a good practice, in as much as it tends to lower price levels to the point that boxed fruit cannot be sold in competition. We cannot ship all of our fruit in bulk and the shipping of any appreciable quantity in this manner is, in my judgement, a bad practice in view of this tendency to lower general price levels. Better appearing fruit does not have to be shipped in this manner and this situation is only another reason for producing a finer quality of oranges. Our great competitor, California, with its yearly volume of fifty thousand cars, offers an orange which is bright and free from melanose. Our oranges, containing fifty per cent more juice have frequently sold at considerably lower prices. However, when the appearance of Florida fruit equals that of California fruit, jobbers and consumers alike are willing to pay considerably more for it. To this extent are we penalized because of the appearance of our Florida oranges. Another factor militating against generally better results is the perishability of Florida oranges, a curse which their superior juiciness carries with it. Only on Pineapples and Valencias do I recommend an aggressive sales program in the West.

It is to be regretted that the State of Florida did not, long ago recognize the fact that a relatively few, rather than an excessively large number of varieties, would have proven more profitable. As an early shipper, the muchly maligned Parson Brown is still the standard orange. As a mid-season orange, the Pineapple certainly has no rival, and the Valencia or Hart's Late is the only successful late producer. Were we shipping only these three varieties, our product would be more or less standardized and the trade would know better what to expect. California has been more far sighted than we, and is now

producing, in quantity, only two varieties: the Naval and the Valencia. I confess that many of our mid-season oranges, such as the Jaffa, the Ruby and St. Michael Bloods, and others, are good varieties, but the marketing agencies and the growers themselves would be in much stronger position with Pineapples in their places. As the Seedling orange trees begin to die out, or become unprofitable the growers are going to be faced with the necessity for re-planting. I hope that the Pineapple orange will be used to supplant the old Seedlings.

Tangerines are next in point of With the damage susproduction. tained by the Satsuma growers in Alabama, this past winter, we may hope for better market conditions to exist on this commodity before Christmas. Easy to peel and of a wonderful flavor which appeals to old and young alike, I feel that we have only scratched the surface in tangerine distribution. From a sales standpoint, there are only two complaints to be registered against this fruit; lack of large sizes before Christmas and dryness after the first of February. Tangerines are remarkably good carriers, when the thinness of the skin is considered, and tangerines can be shipped for a longer period of time than is now customary, provided growers will plant more of this stock on sour root and fertilize in such a manner that the fruit may be held until February or later. Even during this year of depressed prices, tangerines sold during February and March at amazingly high figures; \$10.00 to \$12.00 delivered in the markets not being an uncommon occurence. Growers and shippers should recognize the necessity for spot picking tangerines, it being my belief that this fruit should be picked over from three to five times. In this manner the large sizes may be selected early in the season. This would result in more desirable sizes going forward to the markets and would also lengthen our shipping season. Tangerines on lemon root should be carefully watched and removed from the trees before dryness develops. Even to a greater extent than grapefruit. tangerines are strictly a Florida commodity. This fruit has never been really introduced into the West and I am most optimistic over its future, provided it is rightly handled and the dry fruit is carefully culled.

In a broad way, some comments may be made which apply to all commodities. No fruit is good until matured and immature fruit is recognized as a most harmful factor to our

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The Marketing of Green and Colored Fruit a Calamity to the Grower

By Clinton Bolick, of Ft. Myers Grove Co., at Meeting of State Horticultural Society.

Before entering upon this most important subject I must confess that I am among the guilty who colored and marketed green fruit the past season and it is with regret that I must make this confession although there were over one million boxes of Florida Citrus Crop marketed before we cut a fruit from our trees. This fruit being greenish in color although it passed the acid test, had to be colored in order that it would catch the consumer eye.

It was through the urgent request of northern dealers that we were forced to pick some early fruit. They advised us that their competitors were handling fruit and if we expected their trade to handle our fruit we must get some in the market. Now I do not want to pass the buck as to the marketing of green fruit, to the dealers in the north for we growers knew the condition of our fruit and we might have known that if any ill effects would come from this deceifful practice that the calamity would fall on us.

No doubt that there is a great deal of truth in subject assigned to me for a near calamity has come to most every grower. But we cannot blame the marketing of green fruit entirely for the market conditions.

The enormous crops of apples, grapes, peaches, pears, prunes, apricots has all tended to hold down our citrus markets. Have the growers of these deciduous fruits made any money this year? No. They have their problems to work out as well as the citrus grower.

I recall a remark made at the Orlando meeting by Mr. Miller of the Fruit Auction Company of New York when he was asked what was the trouble with the Citrus markets, he stated, "you filled our markets full of colored green fruit in October and November, later you glutted the markets with fairly good fruit but the bitter taste left in the mouth of the consumer from this green fruit made them skeptical buyers of your good fruit." Now how many growers were eating from the fruit we were ship-

ping last October and November.

The question of great discussion has been when is citrus fruit ripe or mature. Laws have been made to try to determine its maturity. Chemical tests and standards have been made whereby its maturity may be passed upon, but do any of these mean anything so long as every packing house in the state has its coloring rooms? Why! I had Valencia oranges as green as grass in color last December which passed the acid test and all the grapefruit I shipped last November passed the test required by law, but were they good to eat? No. Now is there a remedy whereby this unfortunate practice of coloring green fruit and the practice of selling immature fruit to the consumers can be stopped?

Fellow Growers, the most satisfactory way to test your fruit is to eat some of it, if it is pleasing to your palate evidently it will please our northern buyers.

Your State Chemist will tell you that the ratio of "Acids to Solids" indicates ripeness. He will also tell you that citrus fruit will show a much greater percentage of sugar when the fruit after maturity, remains upon the trees; furthermore he finds that the fruit will not change in sugar or acid content after its removal from the tree, and again he will tell you that color bears no relation to maturity.

Now after considering the above very closely what is the best guidance for we growers to take in determining the ripeness of our fruit?

The consumer tests the ripeness and quality of our fruit by its taste. Fellow Growers, lets let our conscience be our guide and let our taste be our test for maturity.

It will require organized efforts of every citrus grower, every selling agency and every packing house in the State to stop this unscrupulous practice and to overcome the unfortunate conditions new prevailing and to reestablish the confidence of the trade and to regain our former reputation for sweet and julcy fruit. Now are we going to show little or no interest in the coloring and marketing of immature fruit next fall and have this great industry handicapped by a few growers who will defy the law of self respect, and the growers of this wonderful State meet with a calamity such as they have this season. People, this is not only a growers problem, it is the Bankers problem, it is the merchants problem, it is the problem of every citizen of this great State of Florida.

Let us hope that public sentiment among the business people of our great State will be strong enough to compel the few who disregard self respect for selfish financial gain and who will try to market immature fruit to discontinue this practice and let us make our business ethical by practicing the teachings of the Golden Rule.

It is evident that we are going to have a skeptical market next fall, the consumer is going to be a skeptical buyer and we cannot do too-much toward regaining his utmost confidence.

We did not consider the consumer last fall when we were marketing the two million boxes of immature-fruit. Now they are the people who hold the real balance of power. Our profits are governed by the influence-they have over our products. Gain their confidence and we will have a better market for our fruit.

We must not forget that we are at the mercy of the consuming public and too much emphasis cannot be laid upon the fact that our business success as growers is always the results of high ethical standards.

We don't plead sentiments, we must demand rock bottom principles and to start this great industry back to success for the growers, it is vital practice what we ask our fellow business men to practice.

The policy which we followed last fall contained the germ of moral decay, the loss of human respect and industrial degradation, the buying world has accused us of moral turpitude.

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Satsumaland Growers Hold Enthusiastic Board Meeting

Graceville, Fla., April 22, 1924.

The regular meeting of the Board of Directors of the Satsumaland Fruit Growers held here yesterday was a pronounced success. The attendance was good. The following members responded to roll call: W. M. Pope, St. Andrews; M. W. Carroll, Round Lake: J. D. Parish, Vernon; Joe W. Williams, Chipley; B. H. Baker, Cottondale; L. A. Mobley, Cypress; J. D. Smith, Marianna; W. W. Wester, Inwood; J. E. Miller, Graceville; M. K. Ford, Compass Lake; and W. A. Sessoms, Bonifay. Besides these, a number of interested growers visited the sessicata.

A message of regrets for necessary absence was received from W. L. Wilson, President of the Board, who is now actively assisting the Florida Citrus Exchange in their big "signup" campaign. Mr. Wilson spoke hopefully of the effort to sign up at least 65 per cent of the citrus growers for the coming year—a feat that will mean much to all sections of the state including Satsumaland.

J. D. Smith, of Marianna, chairman of the "Rates Committee," reported that a reduction of 10 per cent had been granted on express rates. However, he expressed the opinion that further concessions could and should be obtained. In this connection the work of the Florida Fruit and Vegetable Shippers was discussed and steps taken to line the Satsumaland Growers up with them in their fight for better shipping rates and facilities. Strong resolutions were adopted embodying this policy. J. E. Miller and B. H. Baker were added to this important committee.

Mr. Smith also spoke in glowing terms of his prospect for a large crop of plums and peaches. His 3000 four year old peach trees are thrifty and loaded with fruit, while the plum trees are outdoing the peach trees, if that be possible. The reports from Satsuma growers was encouraging, and plans for enlargement are reported from all sections. It was a general feeling that the lessons taught by the freeze were worth all they cost.

A most pleasant feature of the session was the splendid dinner served at Graceville's fine, new hotel. Grace-

ville may well be proud of this institution. In it they have an up to date hotel hardly excelled in all Satsumaland. Here the citizens of Graceville extended a most cordial hospitality to all visitors. One item, especially, on the excellent menu, new home-grown potatoes, attracted much attention and elicited much comment. Soon hundreds of car-loads of potatoes will be rolling from Graceville and other points in North Satsumaland.

The June meeting of the Board will be held at Chipley on the Third Monday, the 16th.

W. A. SESSOMS, Secretary.

Resolutions adopted by the Board of Directors of the Satsumaland Fruit Growers at their regular meeting held at Graceville, April 21st, 1924.

RESOLVED: That the Satsumaland Fruit Growers hereby go on record as being opposed to any further charges being made against the growers for demmurrage on refrigerator cars, or any other type of car; and further we feel, as growers, that the present freight and express rates on vegetables and fruits are excessive, and are working a serious hardship to us, and should be reduced to the prewar level.

AND FURTHER BE IT RESOLV-ED: That we pledge our support and cooperation, as an organization and as individuals, to all other associations and individuals engaged in the fight against an increase of rates and penalty charges and for a speedy and material reduction of the present rates.

The above is an exact copy of resolutions as adopted by the directors of the Satsumaland Fruit Growers at their regular meeting held at Graceville, April 21, 1924. and appearing in the minutes for that meeting.

W. A. SESSOMS, Secretary. By R. M.

PIONEER FRUIT

GROWER IS DEAD

Mr. E. L. Zimmerman of 1909 North A. Street, Tampa, died recently. He is survived by his wife and daughter and brother, F. J. Zimmerman of that place; his brother George of Cortland, N. Y.; and father George Zimmerman and brother Judge A. G. Zimmerman and sister Lou Zimmerman of Madison, Wisconsin; and sister Mrs. U. T. Schneyer of Prairie du Chien, Wisconsin. His brother Oscar Zimmerman died as a Spanish-American war veteran in Porto Rico.

Mr. Zimmerman came to Tarpon Springs, Fla., twelve years ago from Minnesota for his health. He engaged in the newspaper business in Tarpon Springs for a few years and since has been widely identified in the nursery business at Oldsmar and Tampa with his brother, Mr. F. J. Zimmerman. They took a prominent part in the fruit industry of this state, having introduced Adapted Bunch Grapes, Domestic Tree Blueberries, Tree Blackberries and many other fruits which business will be continued from Tampa and Sanford by Mr. F. J. Zimmerman, who has been in grape culture for the past twenty years in the South. He was secretary of the Florida Grape Growers' Association, and took a prominent part in the original organizatioin.

FLORIDA SHOULD PRO-DUCE MORE MILK

"If the South would wake up and do the dairy work it is capable of doing, I don't know what we Wisconsin people would do." That statement was made by D. H. Otis, director of the Agricultural Commission of the American Bankers' Association, at a recent meeting in Gainesville of Florida agricultural workers and representative Florida bankers.

At present Wisconsin produces 70 percent of the cheese made in the United States. There, Mr. Otls says, the farmers have to feed their cows seven months out of the year, "while in Florida you are growing green crops practically the entire year."

It has been estimated that Florida needs to produce \$20,000,000 more of dairy products in order to supply her own demands.

Every child should have a quart of milk every day. Experiments have proved that they cannot make normal growth without it.

The Citrus Industry

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GROVE CALENDAR FOR MAY

Timely Suggestions for Grove Work During The Present Month

Next month is summer planting time for citrus trees; plant good healthy nursery trees that have been inspected and certified by the state plant board.

Prune late bearing citrus trees as soon

as crop is removed.

If citrus grove is infested with scale or whitefly, spray thoroughly with oil emulsion. Whitefly may be controlled by a fungous parasite; calculate the number of cultures of this fungus that you will need; write to the State Plant Board, Gainesville, for

The cottony cushion scale may be controlled by a natural enemy, the Vedalia or Australian lady beetle. If you have the scale in your grove, and do not have the beetle, communicate with the State Plant Board.

If rust mites are appearing, add sodasulphur to the oil emulsion used against

scale and whitefly.

Spray grapes with 4-4-50 bordeaux to control anthracnose and black rot; repeat every two weeks if necessary.

MARKETING SITUATION

The citrus shipping season soon to be brought to a close has been fraught with many disappointments for both the growers and shippers of citrus fruits. This statement is true of California as well as of Florida. However, our principal concern has to do with conditions in Florida.

During the season just closing many factors have been blamed for conditions existing and many remedies have been suggested. Prominent among the latter was "The Lake Wales Plan" for a citrus sign up campaign which has just

As a result of this campaign the majority

of the Florida citrus crop will be controlled, so far as distribution is concerned, by the Florida Citrus Exchange during the coming season. It is the belief of the sponsors of "The Lake Wales Plan" and of many growers that the handling of this percentage of the Florida crop by one marketing organization will operate toward correcting the conditions which existed during the present shipping season.

But, however effective this strengthening of the Florida Citrus Exchange may be in solving the problem of distribution, it is but one element of the unsatisfactory situation existing during the present season. There is still need and will continue to be need of co-ordination and cooperation between the Exchange and independent shippers. To this end the committee of sales managers should be continued and their efforts toward control of distribution should be redoubled. In this way only can the greatest efficiency in the control of distribution be hoped

Another problem which remains to be solved is that of green fruit shipments. Here, fortunately, the Exchange and the independents can meet on common ground. As a matter of protection to themselves and the industry both favor the eliminatiion of this evil. Federal inspection backed up by a "law with teeth in it" must be invoked to prevent a repetition of last year's experience when the shipment of from one million to two million boxes of green fruit wrecked the market and brought about a condition of disorganization from which we have not yet recovered.

Then, too, we must get back to first principles, produce better fruit and secure a better pack. As long as a heavy proportion of Florida citrus shipments are of inferior grade, just so long must all Florida growers suffer by reason of a bad reputation. To secure the greatest return from his investment and labors the citrus grower must arrange to produce better fruit and insist that his packing house give him

a uniform and standardized pack.

The Florida Citrus Exchange and the leading independent shippers are agreed that effort should be made to place citrus sales on an F. O. B. basis. Selling efforts of the Exchange are to be directed toward sales on a cash basis F. O. B. Florida shipping points where possible. The same practice is favored by the independent shippers. Without question, this is the "one best bet" unless the grower shall elect to sell his fruit for cash on the tree.

There still remains the question of freight rates which is being handled by the Growers and Shippers League. Florida must have a reduction in freight rates particularly to western points with a view to opening up new territory from which the Florida product heretofore has been barred by excessive and discriminatory rates. Every grower and every marketing organization are vitally interested in the proper solution of the rate problem and must give hearty co-operation to the Growers and Shippers League if this problem is to be solved and solved right.

The Citrus Industry believes that the next

shipping season will be much more profitable to the Florida citrus growers than the one just closing but until all of the problems above outlined have been satisfactorily solved the citrus growers of the state will not attain that degree of prosperity and success to which they are entitled.

THE HORTICULTURAL SOCIETY

The recent meeting of the Florida State Horticultural Society in Tampa was one of the most interesting and beneficial meetings of this Society held in recent years.

Many important subjects were discussed in able papers by men prominent in the industry of the state, while round table discussions added much to the information contained in the formal papers.

The attendance was good and the interest manifested was fully as great as at any previous meeting of the Society.

The members of the society showed their good judgment in the re-election of those officers whose efforts made the recent meeting a success. These officers are L. B. Skinner, President, W. J. Krome, Vice-President, Bayard F. Floyd, Secretary, W. W. Yothers, Assistant Secretary, and L. D. Niles, Treasurer. No better selection of officers for this great horticultural body could have been made.

CITRUS ROOT STOCKS

The Citrus Industry takes a great deal of pleasure in reproducing in this issue the paper on Citrus Root Stocks read by Mr. R. E. Skinner of Tampa at the recent meeting of the Florida State Horticultural Society. We believe this to be one of the most important papers read at that meeting and one which should prove of much interest and benefit to the citrus growers of the state. That we are not alone in this belief is shown by the following letter which we received from one of the leading citrus men of Florida:

"Let me express the hope that you can print the paper read by Mr. R. E. Skinner at the recent meeting of the Horticultural Society. I listened to it with a great deal of interest, and I should like to read and study it carefully. The points he makes regarding the variation in root stocks, and the necessity for culling in the nursery are important; but his conclusions relative to the relationship of the various sorts of root stocks to the marketability of the fruit they produce seem to be far-reaching and worthy of the closest study at this time when the satisfactory marketing of our fruit is of such prime importance."

WHY THIS GREAT CURIOSITY?

Curiosity is a natural trait of humanity, but just why a New York school teacher should be spending good money to secure data on the production cost of Florida citrus fruits to the extent of making hundreds and probably thousands of inquiries to the citrus growers of the state is beyond our power of comprehension.

Yet the fact remains that hundreds of citrus growers of Florida have within the past few days received letters from a gentleman posing as a school teacher in the city of New York asking them to supply data on the total production cost per box of oranges, grapefruit and tangerines covering a period of ten years.

Of course this gentleman's activity may be the outgrowth of natural curiosity, but if so he is spending a lot of money to gratify his inclina-

It is barely possible of course that the New York gentleman is actuated by some motive which would benefit Florida growers, but we would suggest that before answering the questionnaire and supplying the information requested, that the growers make sure of the use to which such information would be put. If, after investigation, you are satisfied that the information requested will be used for the benefit of Florida and Florida's citrus industry, by all means give it. But until Florida growers have convinced themselves that the information requested will be used for their benefit and not for their undoing, we would suggest that they permit the New York school master to secure his data from other sources. This may be a case where a little misplaced confidence might prove extremely costly.

MORE ADVERTISING NEEDED

That Florida must embark on an aggressive and extensive advertising campaign to popularize Florida citrus fruits, if the grower of such fruits is to receive the profit to which he is entitled, is the belief of Lorenzo Wilson, head of the Wilson & Toomer Fertilizer Co., and the Holly Hill Groves at Davenport.

While not belittling the work along this line which has been done in the past by the Florida Citrus Exchange and some of the independent shippers, Mr. Wilson emphasizes his belief that a greatly enlarged program of advertising must be inaugurated to provide a market for Florida's constantly increasing citrus output. "I am firmly convinced that profitable operation of grove properties in Florida is contingent upon very much more aggressive and extensive use of advertising," says Mr. Wilson.

Elsewhere in this issue is printed a paper read by Mr. Bruce Floyd before the recent meeting of the Florida State Horticultural Society. This paper should be carefully read and studied by every citrus grower who hopes for the highest degree of success from his efforts.

Clinton Bolick of Fort Myers and F. W. Ohlinger of Haines City, in this issue of The Citrus Industry, strongly protest against the evil practice of shipping green citrus fruits from Florida. These communications are worthy close perusal and careful consideration by every grower and shipper of fruit.

Orange Culture in India

Recently The Citrus Industry published an article on Citrus Culture in India by Mr. Charles B. Spofford, Jr., a representative of the Bureau of Foreign and Domestic Commerce. This article proved of much interest, and we are glad to now print the following article from an Indian correspondent submitted by Mr. Spofford through the Bureau of Foreign and Domestic Commerce.

Teesta Valley, December 20. The tea season is now at an end. and oranges now form the principal consignments that go down this Valley. Large quantities of these are being brought in from Sikhim and being despatched to all parts of India. The orange trade has grown exceedingly of late, and as a consequence the price of the fruit has increased considerably in this district during the last year or two. We used to get a hundred oranges for ten annas, but this quantity now costs two rupees for ordinary specimens, while for the larger kinds the price is not less than Rs. 4 a hundred. Cultivators with a few orange trees in their "baris" therefore possess a very valuable asset, and many more of them are going in for this form of cultivation than formerly. The trees are rather difficult to propagate, but once they are established they require little attention. They do not produce for a good many years but when they reach that stage they are practically ever-lasting.

Neglected Groves.

It is a pity that some of these horticulturists were not more particular in the selection of their seedlings in the past, for it costs no more to look after a good tree than it does to rear a poor one, though the results are quite different. Many of the existing orange groves produce small fruit which is troublesome to collect and not very remunerative in the market, whereas trees that have been selected with care give equal quantities of large and juicy oranges, which bring much profit to the grower. The Demonstration Farm at Kalimpong has done good work in this direction, and the seedlings that are procured from the nurseries there nearly always turn out well. Some cultivators entirely neglect their groves and then wonder why their trees fall away in production. Though orange trees do not require so much attention as many other cultures, they will not stand being neglected altogether and owners of young orchards should realize this. The exposing of the roots occasionally and application of good organic manure make a wonderful difference to the trees, and we have seen several exhausted groves make a splendid response to treatment of this kind.

It is a matter for surprise that the cultivation of oranges is not gone in for more in places like the Mikir and the Naga Hills in Assam. They are grown to some extent in the Khasi Hills, but there is little doubt that this form of profitable cultivation could be greatly extended in that Province. We have a recollection of seeing some very fine oranges that came from the Naga foot hills in the Sibsagar district and there are many other spots along the Brahmaputra Valley where this fruit could be successfully grown. In Sylhet this trade is an important one, though in some parts it is the case that the trees are going back in condition. It might be a good move for the officers of the Agricultural Department to import fresh stock in the shape of seedlings from the Government Farm at Kalimpong, where there are many varieties under test.

A few planters have orange trees in their compounds, but the specimens we have seen are more ornamental than useful. We once occupied a bungalow in Assam where there was a solitary orange tree in the compound. It was of fair size but gave no fruit and did not seem to increase either in height or girth as the years went by. An old planter from the Surma Valley said that it wanted some livening-up, and recommended a dead buffalo or bullock if there was such a carcass in the locality to dispose of. We made enquiry but found nothing larger than a dead dog. The roots of the orange tree were exposed and the carcass was deposited amongst them and then the soil was replaced. Sure enough, in the following season there was quite a show of blossom and towards the end of the year we got half a dozen fruits off the tree. They were not large, neither were they very sweet, but they certainly proved that organic manure was just what the tree required.

Some growers in Sikhim and neighboring parts have fallen on the plan

of boiling their oranges before despatching them to the markets. This has the effect of increasing their size and making them rather loose to the feel. We have sampled some of these and, though the treatment does not seem to make any difference to their taste, we would advise prospective buyers of wholesale quantities to stipulate that they do not want boiled oranges!

A Menace to Local Industry.

Planters in this district, as well as in the Dooars and Terai, have good reason to be perturbed at a new element that has come into their midst, namely, an attempt to recruit local labor for the chinchona plantations in Burma. It is well known that there is a serious scarcity of labor for tea gardens in all the districts, and this neighborhood is not the least that suffers in that direction. Readers will remember the outcry that arose from various quarters. Nepal and Darjeeling, some little time ago, in connection with an article in "The Englishman" about the employment and repatriation of pales coolies working at the Margherita coal mines in Upper Assam. These interested parties held that natives of Nepal should not be employed there and stated in effect that it was unfair to engage such coolies outside their own district. Without entering into the merits of the case, we think the parties concerned have now an exceptional opportunity and a strong case for commencing a campaign with the object of retaining local laborers in this district.

We learn that responsible recruiters conected with the chinchona plantations in this locality have been engaged for some time in traversing a wide area here in an endeavor to secure laborers for similiar plantations in the Tavoy District of Burna. It is well known that these plantations have been badly handicapped by a scarcity of labor and it would seem that an effort is now being made to overcome that difficulty by importing workers from this country.

We would ask in the first place— Has Government sanctioned such a scheme? These plantations are Government concerns, and if they have authorized recruiting operations by the means mentioned, it is a very serious matter for all local employers of labor. The terms offered are very

attractive, and tea companies in the THE MARKETING OF districts mentioned cannot afford to offer the same. We are told that men have been promised twenty rupees a month, women fifteen and children ten, on a two years' agreement, and then to be repatriated. Their existing debts will be paid off before the recruits are despatched, such sums to be deducted from their earnings during the period of their contract. Terms like these are very inviting to the inhabitants of these Hills and it is little to be wondered at that there has been quite a scramble by needy people to be engaged, as, we learn, has been the case. The Nepalese are noted migrants and they will have no hesita-

tion in leaving their own country for A Bad Outlook

a time on the terms offered.

But an emigration scheme like this, if it be carried out, will have a very bad effect on all local industries, and the planters' associations in Darjeeling, the Dooars, and the Terai, will require to be up and doing before the movement gets much further. These districts employ a very large number of Nepalese coolies, and if the bright prospects of such an emigration scheme become known to these people, it is bound to have a very upsetting effect. This recruiting movement may commence in a small way, but once it is started it is difficult to foretell where it will end, for chinchona plantations require a large body of laborers, and, as is well known, the ordinary Burman will not engage himself under contract for any length of time. This will mean that more and more immigrants will be required, and once the connection between the Nepalese laborers here and their relatives working in Burma is formed, it may mean a traffic on a large scale.

Objection has often been raised about employers in Assam and Behar recruitng from this neighborhood, and no doubt the objectors felt themselves justified in their complaints. The present movement is a much more serious one, and not only local planters, but also the District Officers, have a duty to perform in taking steps to enquire into the matter before this emigration scheme is actually carried into effect. If Government has not sanctioned the recruiting campaign that has been started, people here are entitled to be informed who really is responsible for it. Villagers everywhere are excited about it, and this alone has an unsettling effect on established labor in tea gardens.

FRUIT WITH RFFERENCE TO QUALITY

Continued from page 9

great Industry. We have started the past several seasons with heavy shipments of immature oranges and grapefruit and to a lesser degree, tangerines. The pre-coloring of fruit is a harmful practice only when it is abused, and under some conditions is no doubt beneficial to the carrying quality, and appearance. This improvement in carrying quality is attained only by removal of the stems, and such unbuttoned fruit, while frequently looked upon with disfavor by the trade, will neverthe-less be overlooked when the practive of precoloring immature fruit is stopped and when the trade recognizes gassing as a factor helpful to the sound arrival of fruit. At the present time the trade is thoroughly disgusted with precolored immature fruit, shipped during the early part of each season. A million boxes or more of unfit fruit were so gassed during last October and November. Aside from the fact that this sour fruit had a most harmful influence on our later shipments, the precoloring process allowed the shippers of the State to move fruit in quantities without precedent and entirely in excess of what the country could consume. The net result was that this surplus stock went to the warehouses and was later offered to the trade, not only unfit for consumption from the standpoint of maturity, but in addition, showing decay.

I maintain that our shipping season should be stretched over the longest possible time consistent with the actual maturity of fruit. Fruit should not be moved until it will pass the Federal Standards of eight to one on oranges, and seven to one on grapefruit, neither should it be held on the trees in the Spring until it becomes dry or the seeds have sprouted. If there is a business in this world which demands honesty for its own salvation, our fruit business is certainly that one. Only by carefully standardized grading can we hope to attain the success which confidence brings and shippers are meeting with success only in direct proportion to the honesty of their grading and packing practices. We are selling to fruit experts and they in turn are selling our commodities to an increasingly critical consuming public. Most of our problems can be solved in the groves and in the packing houses. The other problems leach.

will likewise be solved when the shippers and shipping organizations, from the smallest to the largest, realize the absolute necessity for standardization in packing and marketing practices. This will come about through sheer force of necessity and those who are last to recognize this fact will be first to fail. Rigid Government Inspection will no doubt prove very beneficial and is now becoming quite generally adopted.

In conclusion. I wish to say that the marketing of good fruit carefully graded and packed, is a stable business and for such fruit marketing agencies find a ready sale. Inferior fruit is becoming an increasing burden, not only to the marketing agencies, but to the packers themselves. Fine quality fruit is profitable; poor fruit has not been profitable this year. and may not be in future years, yet each poor fruit shipped displaces the demand for a good fruit. Do your utmost to produce better quality, see that the packing house which handles your commodity is handling it in the best possible manner, plant only standard varieties, do not market your fruit before it is mature or after it is dry, and the stability of this great business is assured.

GERMAN ORANGE CRAVING BEING APPEASED

After having been practically deprived of oranges for nearly ten years, there is a heavy demand for this fruit on the part of the public throughout Germany. The market is reported flooded and according to a statement received by the Department of Commerce from Consul General Dumont, Frankfort, this condition will continue until the first of May. The bulk of the fruit is being received from Spain and Italy, twenty-five to thirty carloads arriving at Frankfort alone each week. The oranges are sold in fruit shops and by hundreds of vendors in the streets of the principal cities at exceptionally moderate prices, five to sixteen oranges, according to size and quality, being offered for one gold mark. Until very recently, the importation of foreign fruit into Germany was only permitted to a very limited extent, and oranges and lemons have been scarce. Portuguese grapes and South African peaches and pears of fine quality are to be had in the best fruit shops. Italian lemons are again plentiful and sell readily at two to three cents

Farmers Week University of Florida Scheduled for 11th to 16th

Farmer's Week preparations are under way at the University of Florida. The dates have been set for August 11 to 16. Committees have been appointed to have charge of the general arrangements, of outlining the courses and programs and of the entertainment phases.

Already the South is being combed for its best available farm talent. Those in charge announce a number of "big guns" who have expressed a desire to attend this third annual Florida Farmer's Week and who have intimated that they may be here.

"We are endeavoring to make this event the big red-letter week of all farm people in the state. All farmer associations are encouraged to hold their meetings or conventions here during that week. Every resource, power and talent of the state's college of agriculture is to be concentrated into the work of this one week. This is destined to be the big occasion, the great rallying week, of Florida's farm people." Thus spoke Dean Wilmon Newell in addressing a meeting of all the committees in Gainesville on April 21.

The newly organized State Live stock Association is scheduled to meet on the university campus during this farmer's gathering. The state association of veterinarians, as well as a number of other organizations are also expected to meet here. Efforts are being made to bring a large number of bankers here for at least one day of the week.

The committee in charge of the various programs had little to say but a few intimated the central theme of what they are arranging. For instance in citrus the improving of quality, economical production and finding an improved market are subjects which will feature.

The whys and wherefores of quarantines will probably find a place on

the programs, thus acquainting the farmers why restrictions are often placed upon importations and transfers of plants, seedlings, etc.

The woman is to have her share of attention during Farmer's Week. Her program will include home improvements, millinery, health and the standardizing of Florida products.

Poultry and dairying are two general subjects which will be emphasized and discussed by the best authorities in the south.

The dormitories and dining halls of the University will be available at moderate rates for the convenience of the visitors. Boarding houses, hotels and restaurants near the campus and in Gainesville will take care of the greatly increased attendance which is expected this year.

Plans include something for every member of the farm family, and the committees say "Bring 'em all; make this your picnic week."

WANTS SPECIFIC FERTILIZER STATEMENT

Fort Pierce, Fla., April 21, 1924. The Citrus Industry, Tampa Fla.

Much of the inferior fruit which has and is now disgracing the state has in my opinion, and the opinion of others, been caused by the application of fertilizers sold under a blanket statement so far as the purchasers knowing how much of each ingredient is put into a ton. I have been contending for years to induce the fertilizer people to state the individual amounts of each ingredient, but they have so far failed and in some instances refused to do so, but the time has come when some steps will have to be taken to compel them to do so and with that end in view I am writing to the different fertilizer dealers the following letter:

Fort Pierce, Fla. April 21st, 1924.

I will be in the market soon for quite a bill of fertilizer, and if you have a price and formula list, which :

are made, kindly send me one. The demand for better fruit compels the knowledge by intelligent growers of the amount of every source of material put into a ton of the fertilizer they buy. I have bought my last ton under a blanket statement.

> Yours truly, W. R. HARDEE.

RED SPIDERS KILLED BY SULPHUR DUST

Red spiders begin doing considerable damage in various parts of the state in March and April. They injure a variety of plants, unless controlled by sulphur dust. Peas, beans, strawberries, citrus, cotton, violets and camphor are liable to attack.

Infested plants become gray and dried up in appearance and finally turn yellow and die. Such plants, particularly the under sides of their leaves, are covered with a web of fine silk under which the minute yellowish mites can be seen with the naked eye. Under a good lens one can readily see the eight-legged adults, which specifies the amount of each ingredi- are from red to green in color, the ent of which your different brands bright red eggs, and the white skins

which were cast off when the spiders

These spiders belong to a groupcalled spider-mites, which includes the rust mites of citrus. The best remedy for any of the group is some form of sulphur, advises J. R. Watson, entomologist of the Florida Experiment Station.

"Use either free sulphur or some of its compounds-such as lime sulphur-to control red spiders, applying it dry as a spray," Professor Watson advises. "Free sulphur is a most convenient means of control. It is somewhat slower in its action than some compounds of sulphur, often taking two or three days or more to do its work, but it remains active for a long time, frequently two or three weeks and usually kills the mites if the weather is warm. During cool weather it is not as effective as lime sulphur. On citrus trees it does not do good work at a temperature much below 90 degrees."

In the strawberry patch sulphur can be applied by hand, or shaken into the vines through a closely woven. cloth or a perforated can.

Protests Shipping of Green Fruit

Haines City, Fla. March 12, 1924.

Editor The Citrus Industry, Tampa, Florida.

There is much being said and many suggestions being advanced regarding the condition of the market for oranges and grapefruit for the present season, as is the case almost, if not every season. Something must have been done to destroy the demand for Florida fruit. What is this something, and who or what is the cause of it. As there is no effect without a cause, let us see if we can find the cause.

The writer recently had a conversation with some people from the north, who told him that they had bought some Florida oranges in November last, but they were so sour that they could not eat them. They had also bought some grapefruit in November but they were so sour and bitter they had to let them stand in sugar over night so they could eat them at all.

Now it seems a self-evident fact, that the break down of the market, causing the destruction of millions of boxes of oranges and grapefruit, which also means the loss of millions of dollars to the growers. The artificial coloring and shipping of green fruit is the cause of all the trouble, why not remove the cause?

The people of the North who have green fruit imposed upon them are not such big fools as these green fruit shippers, take them to be. If they are fooled once it is the greenfruit shipper's fault, but if they are fooled twice, they know it is their fault, hence slump in the market, and a loss to the grower including those who shipped green fruit. The matter of shipping green fruit, artificially colored, has been an interference with successful orange growing in Florida, for years, always destroying the sale of good fruit, and detrimental to the orange industry for years. And, every year it is done and every year it is heartily denounced.

Now, it seems to me, since the green-fruit shippers won't listen to reason and common sense, that the only remedy is to resort to drastic measures. Have a law passed making it a penalty of not less than six months in the State prison for any one shippiny any Citrus fruits out of the

State before the first of December each and every year. This would permit the early varieties of fruit to get thoroughly ripe, (and not too ripe,) and when it gets into market it will be good and sweet and be a means of advertising the rest of the crop following.

This is the only method to adopt to stop the injurious habit of shipping colored green fruit, and stop the early bird from catching the poisonous worm that destroys the whole crop. Make it a penitentiary act for ANY-ONE to ship any citrus fruit from the state of Florida before the First of December, in each and every year. Such a law would treat all alike, grower and shipper, and will give early fruit a chance to color and ripen, without artificial and deceptive means. before people are requested to eat it. being ripe and sweet when it gets into the market, and it can once again be sold as "Sweet Florida Oranges." as they used to be. Such a regulation would not only protect the growers but would also be beneficial to the public health.

F. W. OHLINGER Haines City, Florida.

THE MARKETING OF GREEN AND COLORED FRUIT A CALAMITY TO THE GROWER

Continued from page 10

All of us here are business men and women. We know that all good and successful business is constructed and transacted on the basis of confidence.

Good will is the most valuable asset. Honesty is an asset, dishonesty a liability.

Is the marketing of colored and immature fruit an asset to the citrus industry? The trade told us it was dishonestly misrepresenting our products. We found it was cur selfish enemy, and a near calamity to the growers of the State of Florida.

Fellow Growers we pay no packing charges, no freight, no selling cost on the good will of our industry, nor do we pay anything for our customers confidence.

We, the growers, are not in the business for pleasure, nor are we in it for grief, we are in it for a

livelihood and a legitimate profit. We have our grove as an investment, and if we expect to prosper we have got to adhere to high business principles; by giving the public a good product at a legitimate profit.

Fellow growers this industry is our baby,—it is young— we could cover it with flowers; we could spray it with perfumed words of praise; but that don't get us anywhere; our industry is real, the industry is in earnest, it is full of duties to perform, so let us begin now and establish it on a basis of rectitude and square dealing and let us determine our own future conduct as growers, take wide views and lay down definite rules for a continued success of all departments of our own wonderful industry.

CITRUS IMPORTS

While Florida and California have experienced considerable difficulty in marketing their citrus crops at prices which would leave the grower anything for his work, the people of the United States have continued to import foreign citrus fruits.

During the month of February, the United States imported 227,728 pounds of grapefruit, valued at \$8,719.00; 2,090,265 pounds of lemons valued at \$30,806.00; 182,643 pounds or oranges valued at \$4,352.00, according to figures made public by the Department of Commerce.

National negro "health week" was observed in Alachua county the first week of April. The local county agent (colored) furnished his people with a constructive and practical program, and was cooperated with by various churches and other colored organizations.

Many fruit trees—pecans, peaches, figs, grapes, etc.—around the home and backyard furnish beauty, shelter, protection to fowls and valuable food.

In writing to advertisers, please mention The Citrus Industry.

CITRUS PACKING **MACHINERY**



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Skinner Citrus Packing Machinery has been used in Florida for many years and is too well known to need description here. The economy and efficiency of up-to-date packing machinery has been evidenced in the citrus industry as nowhere else. The Skinner Ma-chinery Company operates the largest fruit and vegetable packing machinery and equipment plant in the world. They make a specialty of citrus machinery and equipment-This speaks for itself.

It becomes more and more evident that Florida must ship only quality fruit to the markets. Quality means carefully graded and sized fruit. These two essentials are aided greatly through the use of Skinner grading

and sizing equipment.

Time and money are saved by ordering citrus machinery or equipment early. Right now is none too soon to look over your needs and order replacements or additions for next season. If you plan to build a packing house or put in additional complete units to your present plant, it is very important that you make your plans and place your order early. Last minute orders cause confusion and delay. During past years some packing houses were unable to commence operations on time at the beginning of the season because they left ordering of their equipment until the very last minute. Order early and save disappointing delays in delivery.

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SULPHUR DUST

Lime sulphur solution is generally conceded a sure control for rust mite and red spider. This solution sprayed on trees and exposed to the air, breaks down chemically. The lime taking up carbon-dioxide from the air to produce calcium carbonate and the sulphur being deposited as pure sulphur, precipitated in a fine firm. This free sulphur when so finely pulverized and spread to the air quickly takes up oxygen and produces a gas or fume (sulphur dioxide) that kills the mites and spiders. Sulphur dust when not ground to this fineness will not give satisfactory control of rust mites. To satisfy yourself that we actually have a sulphur pulverized to the fineness of lime sulphur solution precipitate, please write for sample and compare it with any dust you have used. Skinners Special dusting sulphur will kill mites and red spider and will flow evenly through a duster permitting the successful use of very small

OIL EMULSION

Oil Emulsion that mixes with all varieties of water without separating and injuring fruit or foliage.

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Skinners Double Strength Nicotine dust is the strongest made and contains 7 1-2 per cent of nicotine sulphate and other chemicals which increase the respiration of the insects, permitting this very strong dust to kill aphis and other insects that regular nicotine dust fails to control.

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Copper Dusts are composed of the same chemicals used to make a good bordeaux mixture. They are so prepared that they have an attraction for moisture and will exact it from the air on being dusted on plants and form a full strength bordeaux mixture wherever dusted, saving much time, labor and money. Copper-Arsenate dusts are a copper dust with a poison added to kill insects at the same time and fungus is controlled.

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Lime Sulphur solution fully concentrated and combined with a chemical stabilizer so that it will not crystalize in the barrels, but will remain as calcium polysulphides until used.

ARSENATE OF LEAD, CALCIUM ARSENATE, NICOTINE SULPHATE (BLACK LEAF 40) AND a complete line of insecticides, fungicides and allied chemicals, power sprayers, hand, traction and power dusters. A duster for all crops. The research department welcomes your inquiries concerning the control of pests and will answer you to the best of its resources.

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Hints to Housewives

Below are given receipts for a number of wholesome substitutes for pie, which so often is unwholesome.

Spanish Orange Cream

This is highly recommended as being both nutritious and delicious. To make, use 1-2 envelope of Knox Sparkling gelatine, 1-2 cup of sugar, 2 cups of milk, 1 cup of orange juice, 1-4 teaspoon of salt, the yolk of three eggs, 1 teaspoon of lemon juice, the whites of three eggs.

Soak the gelatine in milk for ten minutes. Place over hot water, and when gelatine is dissolved, add sugar. Pour slowly on the yolks of the eggs slightly beaten, return to double boiler and cook until thickened somewhat, stirring constantly. Remove from range and add orange juice, salt and lemon juice, then add whites of eggs beaten until stiff. Turn into one large or individual molds, first dipped in cold water, and place in ice box. (This will separate and form a jelly on the bottom and custard on top.) If desired, serve with whipped cream, or sliced oranges, peaches. bananas, pineapple, chopped figs or a herry sauce.

Orange Melange

Use 4 oranges, 1 cup of drained and crushed or grated pineapple, 1-2 cup of powdered sugar, 2 bananas or 3-4 cup of strawberries, 1-2 cup of cocoanut shredded.

Pare the oranges and cut in small cubes, reserving all juice that escapes. Peel bananas and scrape away all the stringy outside portion using a silver knife. Cut the bananas into cubes. Or if berries are used, cut each in half unless very small. Mix the oranges, pineapple and bananas (or strawberries) and arrange in six sherbet glasses. Add the juice that has escaped from oranges during slicing process to the powdered sugar, mix thoroly and pour over the fruit. Sprinkle with cocoanut and serve very cold.

Orange Blanc Mange

Use 4 oranges, 2 1-2 cups of hot milk, 1-3 cup of sugar, 5 level table-spoons of flour, 1-8 teaspoon of salt, 1-4 cup of cold milk 1-2 teaspoon of vanilla.

Pare the oranges and cut in small pieces, drain them, reserving juice, and place in the bottoms of six custard cups that have been rinsed with cold water. Put milk in double boiler to heat. Mix the sugar, flour and salt; when milk is hot add it to the sugar

mixture. Return to the double boiler and stir constantly until mixture thickens, then only occasionally. Cook 20 minutes and add vanilla. Pour into the custard cups over the oranges. Set aside in a cold place until firm. Turn out on serving dishes and serve with any hot sauce, plain or with milk or cream.

Orange Custard

Use 2 cups of milk, 2 egg yolks, 1-4 cup of sugar, 1-8 teaspoon of salt, 2 teaspoons of flour, 1-2 teaspoon of vanilla flavoring, 4 oranges, 2 stiffly beaten egg whites, 5 tablespoons of sugar.

Heat the milk. Beat the egg yolks. Mix 1-4 cup of sugar, salt and flour, and add to eggs, beating until smooth. Add hot milk and cook in double boiler until eggs and flour have thickened the mixture, stirring constantly. Remove from heat and chill. Pare the orange's and slice into a serving dish. Add the vanilla to the chilled mixture and pour over them. Add the 5 tablespoons of sugar gradually to the beaten egg whites and continue beating until smooth and glossy. Heap the meringue on top of the custard and serve.

What's the Matter With Pie?

The trouble with pie is the pastry, and the trouble with the pastry is that it is a combination of starch and fat.

When starch is mixed with fat, the starch cells are waterproofed so to speak, and, therefore, impervious to the action of the saliva. Saliva is intended by nature to be one of the digestive agents for starchy foods. Also, starch, to be rendered digestible, has to absorb water, swell and burst. The small amount of water used in pastry-making is not sufficient to accomplish this and the large amount of fat used, coating the starch grains, prevents the digestion of the starch until late in the process of digestion.

Never Give Pastry to Children.

Use pastry sparingly, if at all, in the diet and NEVER GIVE IT TO LITTLE CHILDREN. It is true that the materials used in pastry are both wholesome and nutritious but don't forget it is the combination which makes them difficult to digest. And, remember, if pastry is to be used, the requisites are that it be tender, flakey, well baked and not—as is generally the case—tough, sodden and underdone.

Any housewife who discovers how to make a tasty pastry without mixing fat with flour (starch) will perform a magnificient service for America. Both houses of any patriotic congress no doubt would give her a subsidy by a rising vote.

Wholesome Substitutes for Pie.

Below are given recipes for a number of wholesome Florida substitutes for the unwholesome pie. Others will be given in this column next month.

Grapefruit Shortcake: Use 4 grapefruit, 2 cups of flour, 6 tablespoons of shortening, sugar to taste, 3 teaspoons of baking powder. 1-2 teaspoon of salt, sufficient milk and water.

To prepare the sauce, collect the juice of the four grapefruits, or a cupful of it. Add 1 tablespoon of flour, 2 tablespoons of butter, 1 cup of sugar, 1-2 teaspoon of vanilla extract if desired.

To make the shortcake, peel the grapefruit. Separate the sections carefully so as not to get in any of the rag. Hold the fruit over a bowl to save the juice. Break sections into small pieces, sprinkle with sugar and set aside until shortcake is made. Mix and sift flour, salt and baking powder together and work in shortening. Mix into a soft dough with liquid. Divide into two equal parts. Put one piece in pan and flatten out. Brush with melted butter, and place other flattened portion on top. Or, if liked more crusty, bake in two pieces. Bake in hot oven. When nicely browned, remove the platter, butter crusts generously, put thick layer of grapefruit on under crust; add other crust and another layer of fruit. Cover all with sauce.

To make the sauce, strain juice of grapefruit into sauce pan. When boiling, add to sugar and flour that has been previously well mixed, and cook until thick. Remove from fire, add butter, and vanilla if desired. Serve at once with shortcake.

Orange Shortcake: Orange shortcake may be made in the same manner as grapefruit with generous servings of sliced, sweetened oranges and whipped cream.

It is just as important to the farmer to have the cost of the things which he must buy reduced, as it is to have the prices of the things he has to sell increased.—D. U. Fletcher.

Growers and Shippers League Opposed to Entry of Spanish Grapes

Upon receipt of information that importers of Spanish grapes were attempting to have regulations modified for prohibiting the importation of grapes from the Province of Almeria, Spain, the Growers and Shippers League of Florida immediately appealed to Secretary Wallace of the Department of Agriculture requesting there be no relaxation in the restriction provided against the importation of grapes of the European or Vinifera type.

Secretary Wallace in a recent letter to the League stated that the Department of Agriculture is fully aware of the risk which would be involved in any modification of this embargo and states that there is no liklihood that the Department would be willing to consider any changes in the present embargo unless and until the Mediterranean fruit fly has been completely eliminated from the district in Spain in which these grapes are produced.

To provide for such prohibition and for any like control as to other countries or districts which may later be necessary with respect to imports of grapes, the rules and regulations supplemental to Notice of Quarantine 56, governing the importation of fruits and vegetables into the United States were further amended, effective January 18, 1924, to provide that grapes of the European or vinifera type may be imported only upon the presentation of evidence satisfactory to the United States Department of Agriculture that such grapes are not attacked in the country of origin by injurious insects, including fruit flies.

Secretary of Agriculture Wallace, as a necessary measure of protection to the fruit and vegetable crops of the United States, has authorized the prohibition of the further entry of Malaga (Almeria) grapes from Spain on account of the finding that these grapes were subject to infestation by the Mediterranean fruit fly 'Ceratitis capitata). This decision was reached in January 1924 following a formal conference with importers and others in interest, conducted by the Federal Horticultural Board at the Department of Agriculture.

It was upon the belief that efforts had been made by the importers to have this prohibition of importation modified that the Growers and Shippers League of Florida took the matter up with the Secretary of Agriculture receiving his assurance that until the Mediterranean fruit fly had been completely eliminated from district from which grapes are imported there is no likelihood of the embargo being modified. The entry and establishment of this fruit fly in the United States would be nothing less than an overwhelming disaster particularly to the fruit interests of this country. The possibility of maggoty oranges or grapefruit would practically destroy the confidence of the people in these fruits. Even a small percentage of infestation would have its psychological effect on the salability and popularity of these products.

It is, therefore, very evident that the action on the part of our National Agriculture Department to safe guard the entry of infested fruit should be appreciated by every grower and shipper of fruits and vegetables in the State of Florida. CITRUS SCHOOLS BEING

HELD IN FLORIDA

Stressing particularly the economical production of high-grade fruit and better marketing methods, officials and specialists of the Florida College of Agriculture on April 28 began a series of citrus schools in the leading citrus counties of the state. About four weeks will be devoted to this work.

E. F. DeBusk, extension plant pathologist who is interested mainly in controlling diseases of citrus, and district agents of the Agricultural Extension Division are in direct charge of the schools. County Agent T. A. Brown of Volusia and Prof. J. R. Watson of the Experiment Station and others are assisting.

NEW MEN WITH NIAGARA SPRAYER COMPANY

Dr. H. W. Dye formerly with the Dosch Chemical Company is now connected with the Niagara Sprayer Company of Middlesport, New York as pathologist and is stationed in Florida for an indefinite period. H. E. Neal formerly of Neal & Neal who respresented the Dosch Chemical Company in Florida with headquarters in Jacksonville is now with the Niagara Sprayer Company as salesman.

Federal Inspection Against Green Fruit

Uncle Sam may aid to protect against shipments of immature citrus from Florida next season if plans proposed are successfully worked out. The Fruitman's Club, which includes in its membership all of the large and most of the small shipping concerns handling Florida citrus fruit, is taking steps to see if federal inspection can be substituted for state inspection, and in such a manner that the passage of further state laws on the subject will be unnecessary. It is manifest that adequate federal inspection should put an end to this evil.

At the last regular meeting of the Fruitman's Club, a very satisfying report was made by the committee in charge of this feature. Correspondence was read from officials of the Department of Agriculture which indicates that such inspection may be arranged for before the next shipping season begins. Under the method proposed, shippers will voluntarily submit to federal inspection, paying a

fee therefor on each car, and furnishing buyers with government certificates of maturity. It is felt that this will make if difficult, if not impossible, to dispose of immature fruit to the trade. The plan was unanimously approved by the meeting.

The committee of the Fruitman's Club is composed of Frank L. Skelly, chairman, American Fruit Growers Inc., Orlando; L. A. Hakes, manager Orange County Citrus Sub-Exchange, Orlando; S. J. Slight, S. J. Sligh, & Company, Orlando; H. A. Ward, Winter Park Fruit Company, Winter Park; and S. O. Chase, Chase & Company, Sanford.

Spray the watermelon vines with 4-4-50 bordeaux mixture to prevent anthracnose, the worst disease of the melon in Florida.

Citrus growers, watch out for rust mites. April is the critical time for grapefruit; it is the time to dust with sulphur or to spray with lime sulphur to protect this fruit from these mites.

Contol of Aphids on Citrus

Press Bulletin No. 357

Certain sections of Florida are now suffering from what is probably the worst infestation of aphids on citrus in the history of the industry. The insects attack the young leaves, shoots and even blossoms. The atacked leaves curl up and are permanently stunted. Indeed, the damaged twigs make very little growth during the entire season and those damaged last year are not making satisfactory growth or bloom this spring. This shows that a very severely attacked twig takes at least two years to recover. Although old mature trees with new growth are being damaged. the check is naturally most serious to young trees.

There are always a few aphids on young growth, especially in the spring but it is seldom that they become sufficiently abundant to make control measures necessary or profitable. Last spring there was an unusually heavy infestation and considerable damage was done in places, but this year the damage is very severe over the central portions of the citrus belt. This unusual outbreak is undoubtedly due to the unusually wet and cool weather of the present spring. Aphids are very rapid breeders. They often begin to breed when but a week old and may bring forth as many as a dozen a day. Moreover, at least at this time of the year, no males are produced: every mature aphid is a mother. On the other hand, they have numerous enemies, including lady beetles, syrphus flies, tiny wasp-like parasites, and a funguous disease, which ordinarily holds them in check, but cool, rainy weather is unfavorable to the multiplication of these enemies. If the weather clears and becomes warmer, these parasites will ultimately control the outbreak, but meanwhile much damage may be

At a conference of entomologists of the Experiment Station and the State Plant Board the conclusion was reached that this unprecedented outbreak calls for active measures on the part of the growers and the following recommendations are made, based on control measures worked out and already tried on a large acreage under their supervision. A high percentage of kill is essential. If only 50 or 75 per cent of the aphids are killed their rapid breeding will result in there being as many as ever in a few days. Their sheltered position inside of the curled leaves makes them hard to reach.

Control Measures Recommended All things considered, the most sat-

isfactory control measure was found to be a thorough dusting with a three per cent nicotine sulphate lime dust. It is necessary to dust both sides of the tree. This dust may be purchased from dealers or made by thoroughly mixing three pounds of nicotine sulphate with a hundred pounds of airslaked or hydrated lime. This will cost more than spraying, but will give better results.

The next best thing, if not equipped for dusting, is a thorough spraying with 40 per cent nicotine sulphate with some spreader added. The nicotine sulphate should be at least as as strong as one part to 800 of water. As a spreader one may use to each 100 gallons of water, 2 gallons of limesulphur, 8 pounds of whale-oil or laundry soap, or three-fourths per cent oil emulsion. Which of these the grower should use will depend upon what other pests he wishes to control at the same time. Lime sulphur will kill the rust mites and red spiders and the oil emulsion is effective against scale-insects and white-

Soap or oil emulsion alone is good. and of course cheaper than the nicotine sulphate, but less effective. Treatment must be repeated as often as necesary until the infestation is under control.

More About the Seedless Pink Marsh

Oneco, Fla., April 16, 1924. Editor, The Citrus Industry,

Noting in the last issue of your magazine, on page 19, "THE SEED-LESS PINK MARSH" by Mr. Skinner, wish to state that this pink fruited Marsh grapefruit which originated here at Oneco, on the property of Mr. W. B. Thompson, will in future be called THOMPSON to differentiate it from the other two sports of Marsh with pink flesh, one from California and one from Pinellas county, Fla.

This sport of Marsh is opposite in its coloring from the Foster; the Foster is the first pink fleshed grapefruit to be found, originating in the Atwood grove at Manavista, on the Manatee River, opposite the town of Manatee, and pronounced by Prof. Hume to be the earliest grapefruit to really mature. It has its highest color in midwinter and is a fit subject to market during the Holidays, a most appropriate time as to coloring. The pink tint gradually fades away in both Foster and Thompson with approach of summer, but never gets to the normal color of common grapefruit.

In the Foster the color is in the skin and all interior fibrous parts of the fruit, while the Thompson has all its color in the pulp only. The color in the Foster shows clear through the skin more or less, and particularly so in the Texas grown fruit, which brings a very fancy price during the Holidays; and in my personal opinion the Foster ranks the highest in flavor and value for eating of any kind of grapefruit: the Thompson is far and away ahead of common Marsh for eating; personally I class the ordinary Marsh with Ben Davis apples! The Thompson is the best of all grapefruit FOR SUMMER eating, I think, and agree on that with Mr. Skinner. The California nink fleshed Marsh has its coloring in the skin and fibrous portions, the same as with the Foster. E. N. REASONER

BANANA PLANTING INCREASING IN PANAMA

Fruit companies are planting more bananas in the Colon consular district this year. One company has already set out 80,000 plants on its newly acquired 65,000 acre plantation and it is their purpose to develop this land in bananas as rapidly as possible. Another company has set out 134,000 banana plants on its tract of 1,250 acres on Gatun Lake. A third company is clearing land and building houses for its operations on Anachucuna Bay. The various banana operations on Gatun Lake and along the east Caribbean coast have considerably relieved the unemployment situation in Colon and vicinity, Consul Julius D. Dreher, Colon, reports.

Grape Growing Profitable in Florida

By F. J. Zimmerman, Tampa

Grape growing is one of the largest industries in the United States, as well as one of the most profitable to the grower. This industry is carried on to a considerable extent in many places in this country of which little is known of the industry outside of that immediate section.

By way of example, there is quite an extensive acreage of commercial grapes on Puget Sound in Washington state. The Campbell's Early grape has been developed in that section into a very profitable one, the increase in acreage there being provided for at present is only limited to the number of plants of the desired varieties that can be procured. This is because of the certain profits that the Puget Sound growers have been receiving annually from their vineyards. It is reported that last year's wholesale selling price of the grapes in that vicinity was 7 cents per pound or \$140.00 a ton. A fair average crop there is four tons to the acre, although 6 tons are often reported by some of the growers.

The cost of cultivating, picking, packing, shipping and selling grapes is ordinarily 2 cents per pound, leaving the Puget Sound growers an average of 5 cents per pound, or \$100.00 per ton or \$400.00 per acre net and \$560.00 per acre gross, although where 6 tons per acre are produced they net \$600.00 per acre from a gross of \$840.00 per acre.

The grape growers of Florida are just waking up to the fact that it is one of the most profitable and most successful fruits being raised in the state.

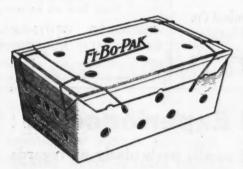
In the report on grape culture in Florida, the State Agricultural Division, United States Department of Agriculture, cooperating with the State University, the grape crop of the season of 1921-22 was valued at more than ten cents per pound.

A single vineyard of Carmen grapes in Florida has produced an average of 14 pounds to the plant at 30 months which is four tons to the acre, so the above estimate of 4 to 6 tons per acre seems a reasonable estimate for the matured vineyards in this state. At four tons per acre and 10 cents per pound, the gross returns would be \$800.00 and at an expense of 2 cents per pound, the net returns would be \$640.00 per acre, but at 6 tons per acre, which is about 22 pounds per plant, the gross returns would be \$1,200.00, less 2 cents per pound for expense would show a net of \$950.00 per acre on a well matured vineyard in this state.

The state report includes many acres of grapes in Florida which are much inferior in quality than the Carman and its kindred varieties.

During the past five years from 15 to 20 cents per pound has been realized from much of the crop of grapes grown in this state.

Every county of the state can produce some varieties of adapted bunch grapes successfully, and there should be interested representatives from every Board of Trade in the State at the next meeting of the Florida Grape Growers' Association which will be held next June at Lakeland, Florida, at which a display of Florida grown grapes will be made.



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Palatka, Florida.

Comparative Value of Table, Raisin and Wine Grapes in California and Florida

By F. J. Zimmerman, Tampa

Much has been said and written about the wine grape industry since this country went "dry." The first year following the enactment of the dry amendment many acres of wine grapes were dug up with the thought that wine grapes would be a drug on the market thereafter. But such was not the case. Each year the wine grape industry of California has shown the greatest growth. While their present acreage of raisin grapes is more than twice that of their wine grape acreage, the value of the wine grape crop of 1923 was nearly equal in total to that of the raisin grape, and nearly 50 per cent more than that of their table grape which had nearly as large an acreage as the wine grape. Thus their wine grape vineyards are far the most valuable per acre.

Furthermore while their table grapes brought an average of 30 per cent more per ton than did their raisin grapes, their wine grapes brought 52 per cent more per ton than did their raisin grapes and 14 per cent more than did their table grapes. Their wine grape industry is far the greatest in monetary return per acre as well as per ton.

In Florida the price per pound of table grapes has been so satisfactory

that little attention has been paid so far to the production of either raisin or wine grapes. Several of the varicties of "Adapted" grapes being produced here make excellent raisins, but owing to the low average price per ton received for raisin grapes little attention has been paid to their culture here. It takes about four tons of fresh raisin grapes to make one ton of dried grapes.

The profit in wine grapes will no

Kills
white fly
and scale insects



doubt lead to the early development of this part of the industry in the State as several of the "Adapted" varieties are excellent wine grapes and have been produced in various sections of the state for the past ten years with good success.

Many interesting questions on grapes will be discussed at the State meeting of Florida grape growers at Lakeland next June.



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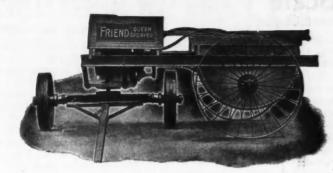
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Purple Scale

By J. R Watson, Entomologist

Purple scale does more damage in Florida citrus groves than any other insect, with the possible exception of whitefly. It is certainly the most abundant scale, although (scale for scale) it is not so injurious as the Florida red scale.

Like all armored scales, the female laya eggs under a hard cover, where they hatch in about a week in summer. The young crawlers wander for a few hours, after which they become attached. The females never move again. It then takes two months to complete their growth. There is a tendency toward forming three

The crawlers are especially abundant in March and early April, in June and July, and again in September and October. Purple scale in most groves is accompanied by whitefly. Indeed, these two insects form one problem for most growers. The honeydew, which is given off by the whitefly, enables sooty mold to grow and form a partial protection for the purple scale from its enemies. The result is that purple scale is more abundant in groves heavily infested with whitefly.

To Control by Spraying

Insecticides used to control whitefly are the best with which to fight purple scale. In groves regularly sprayed for whitefly, purple scale ordinarily will be controlled. The best sprays are emulsions of the parrafin oils. Ordinarily two or three sprayings a year, if thorough, are sufficient to control these two insects. The best time to spray is about the first of May and again some time in September or October. It is necessary, of course, to spray thoroughly to do efficient work.

To Control by Friendly Fungi

Early in the rainy season, groves that have large numbers of scales should be sprayed with spores of fungi. If possible to obtain them, one should use the red-headed, the grayheaded and the black-scale fungi, all in the same water. Material with these fungi on it is soaked in water about half an hour and then thoroughly agitated to wash off the spores. The water from this material is strained to remove all matter that may clog the spray pump. It is then ready to be sprayed into the trees. Use a apray outfit that has never contained bordeaux mixture or lime sulphur. The tank should not be made

of copper as that metal injures the spores. It is better to keep an extra sprayer especially for this (and no other) purpose.

If one has sufficient material, it is better to spray the water containing the spores all over the whole of the scale infested trees; otherwise the spray may be confined to a portion of each tree. In this case it should be the north or shady side of the tree, as it is there that the fungi thrive best, and the scales are usually more abundant. The fungi grow into the bodies of the scales and destroy them. If whitefly is in the grove, the brown and red-whitefly fungi (and also Microcera, if it is readily obtainable) should be applied with the scale fungi.

Purple scale is often particularly injurious in young groves because the fungi do not thrive well in such sunny places. In such cases, it may be necessary to spray the grove with the oil emulsion more than twice a year. July is a good time for the third

In case of a severe infestation of purple scale, it may be necesary to spray twice, with an interval of about a month between. The first application does not kill the eggs under the old females. In a month these will have hatched and the young scales will be killed by the second spraying.

GRAPEFRUIT IN LONDON

In the course of my wanderings this week I noticed that the "Blue Goose" brand of Florida Grapefruit is on sale in London once again. This particular brand created something like a furore when it was first introduced to the trade some three years ago by Messrs. Gerald da Costa, who, in order to popularize it, distributed large quantities of the fruit freely to members of the Royal Family (including the Prince of Wales), and to the trade in general. A fair supply of this brand reached London this week, and investigation has disclosed the fact that most of the fruit found its way to Messrs. Harrod's and Selfridge's stores, where, despite the fact that it is the most expensive mark of grapefruit on the market, it has sold freely. Each individual fruit of the "Blue Goose" brand is, to misquote a well-known advertisement, "as good as really good grapefruit can be," and has electrically stamped upon the skin the words, "Blue Goose." It is a brand much favoured by Americans, who usually know what's what in the citrus line, and there is no doubt that Americans form the bulk of the consumers of such quantities of the fruit as reach this country.-The Market Grower and Salesman, London, Eng.

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Rich Returns From Avocados

Avocados average the grower from \$15.00 to \$20.00 a crate and have brought as high as \$45.00 for choice varieties. One man with a grove of 350 trees averaged \$3,000 a year net for five years, some of his trees producing as high as \$250.00 worth in one crop. The principal thing is the selection of the trees. The Thomas Nurseries have for your selection the finest trees it is possible for the grower to obtain.

PLANT AVOCADOS NOW

Many people think they cannot plant avocados excepting in mid-winter. The fact of the matter is, April, May and June are three of the best months of the year to plant them. They are planted directly from the boxes so that there is nothing cut off to shock the tree. Trees planted now will be rooted and ready for an immense growth during the rainy season. You will save a year in planting avocados now rather than next fall. In three years you will be picking fruit.

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SPRAYING CITRUS TREES

Mr. Citrus Man: Bordeaux-oil is not bringing you the results you thought it would, you say? You thought you could spray just once with it in the spring and wipe out all your grove disease and insect troubles for the entire year, you say?

Well, right there was where you expected too mrch from Bordeaux-oil. Consider the following pointers:

- 1. In spring—from one to two weeks after the blossoms of citrus drop—spray with bordeaux-oil to control the disease known as melanose.
- 2. If you want to spray for scale or whitefly, particularly, use an oil emulsion. It is necessary to spray for these insects in May after the bordeaux-oil has been used.
- 3. The "bordeaux in bordeaux-oil is to control disease caused by fungi, melanose and scab particularly. The oil is used for its discouraging effect on and to HELP control insects. This is what specialists at the Florida Experiment Station say.
- 4. If you use bordeaux-oil in spring, remember that you will have to spray with an oil emulsion to control insects about May or June.
- 5. The bordeaux element is, as said, to kill fungous enemies. But it kills friendly fungi as well as enemy fungi. (Still it is necessary to use it to control melanose and scab, because these two diseases do more harm than friendly fungi do good.)

Because more friendly fungi are killed and set back for a time by the bordeaux, a few insects spring up. The oil in the spray tends to hold these insects in check; it can do this fairly well early in the season because the insects are then young and However, the insects will become numerous in summer, and then you must spray with an oil emulsion to control them. Remember, bordeauxoil can NEVER take the place of the regular oil spray to control insects

Spray your citrus with bordeauxoil a week or two after the blossoms drop and you should control melanose and scab. Spray with an oil emulsion in May (or about that time) and you should control scale and whitefly.

BRITAIN BUYING FRESH FRUITS FROM ALL QUARTERS

Increasing shipments of fresh fruits from South Africa are going into the British Isles this season, pears being the largest item. South African peaches, plums, grapes, neckerines, mangoes, pineapples, grenadilloes and apples also are finding ready sale. According to a report to the Department of Commerce, from Mr. Alfred Nutting of the American Consulate General at London, all precautions are being taken to insure the arrival of the fruit in good condition. To insure a current of air in transit, each case is supplied with cleats which are dyed distinctive colors; peaches being red, grapes green, plums blue, et cetera. The importers find this of value as it enables the cases to be stacked in the warehouses in such a way that it is easy to distinguish at once each variety of fruit. Florida oranges are being shown at Covent Garden, on each of which appears the name of the brand, and they are offered as never having been touched by hand, being gathered, wrapped and packed by gloved packers. There is a fair supply of Java oranges and some California are arriving, but the bulk is from Spain.

In writing to advertisers, please mention The Citrus Industry.

Velvet beans, cowpeas, beggarweed, peanuts and soy beans—in the order named—are the best legumes for Florida.



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Black Spot on Roses

Recently a subscriber to The Citrus Industry asked us for information regarding the proper treatment for black spot on roses. The inquiry was submitted to Mr. N. A. Reasoner of the Royal Palm Nurseries at Oneco as one whose authority on such matters is recognized. Mr. Reasoner replied as follows:

Oneco, Fla., April 9th, 1924. Mr. S. L. Frisbie, Editor, Tampa, Fla.

Dear Mr. Frishie:

This will acknowledge your recent letters with regard to a special article on black spot on roses for your column, and I would only be too glad to prepare such an article except for the fact that I am very busy and I believe there is an article in the American Rose Annual which will exactly fill the bill.

Another treatment sometimes used is a spray of the common cooking soda, Bicarbonate of Soda, mixed in the proportion of one ounce to a gallon of water. This also, however, is only preventive and I do not believe would be quite as effective as the Sulphur and Lead-arsenate.

This rose annual is a wonderfully fine book and well worth by itself the price of membership in the American Rose Society (\$3.00 a year) irrespective of the other publications furnished, which this year includes the member's hand book and a volume of standarized rose names which we find very useful. Membership also entitles one to free admission to all the Rose shows held by the society and also to the Rose Pilgrimages held in a number of places over the United States during the year, where the famous gardens and rose nurseries of different sections are visited. There are comparatively few members in this State and you might suggest through your column that this is a fine thing for all those interested in roses and suggest that they can get in touch with the organization through Robert Pyle, Secy. at West Grove, Pa. The Annual by itself can also be obtained from him without membership at a price of \$2.00. However, the membership is more than worth the other dollar.

Trusting that this will give you the desired information, and with kindest regards and best wishes, I am as ev-

> Cordially and sincerely yours, N. A. REASONER

The treatment suggested by the American Rose Annual follows:

Fighting Black-Spot-The Editor calls attention to the success in 1923 of the control method for black-spot and mildew detailed by Dr. Massey in the 1922 Annual. No case of serious injury is reported where the treatment is peristed in. Briefly, it is to thoroughly dust the rose foliage before any injury appears with a mixture of nine parts dusting sulphur and one part powdered lead-arsenate, and to repeat this every two to three weeks, beginning when the buds have developed and do not yet show color. If one part, of tobacco dust is added, aphis and thrip are also controlled. The material must be dust, not coarser, and it can be obtained of the Corona Chemical Division, Milwaukee, Wis., and of other concerns. A satisfactory "gun" can be had for a dol-

Emphasis is laid on the fact that this treatment is preventive, not currative. Black-spot is in the leaf, and cannot be cured.

Scrub pastures mean scrub cattle.

WHY NOT COLORED WRAPS?

Leesburg, Fla., April 21, 1924. Ed. Citrus Industry, Dear Sir:

I make this suggestion to citrus growers: Use russet paper for wrapping russet fruit, white paper for bright, colored paper for fancy.

This would not interfere with private brands, but it would enable the buyer and seller to tell the different grades from the outside of the package. Besides it would save 2 operations in preparing fruit for market and would be free from mistakes.

Yours truly.

THOS. W. SPICER.

Conserving our forests, according to Dean Wilmon Newell of the Florida college of agriculture, is one of our biggest problems. Under our present methods we don't even let nature help us. Millions are destroyed by fires every year in lumber, wood, pastures and soil humus.

The scrub-plant or animal-usually means failure. Don't risk it.

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Submerged Filler attachment extra.

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on citrus, but they have further suggested that Flowers of Sulphur should be selected for best results. There are many different grades and qualities sold as "Dusting Sulphur" so that control of Rust Mites and Red Spiders will be governed by the particular brand or grade which you purchase.

For best results and efficiency of application, demand "ANCHOR" BRAND SUBLIMATED VELVET FLOWERS OF SULPHUR which is the highest quality of sulphur and the most satisfactory for dust-

ing citrus for rust mite and red spider. The initial cost of "Anchor" Brand may be more than other dusting sulphurs, but the reduction in labor, the saving of sulphur, and the improvement in quality of the fruit, will prove that "Anchor" Brand is the cheapest investment. "ANCHOR" BRAND WILL NOT HARDEN OR CAKE AND FORM INTO BALLS OR PELLETS. It is freerunning in its natural state and does not require adulterants of any kind. When hand or power dusting ma-chines are properly adjusted, the "Anchor" Brand will flow freely, producing a veritable cloud of impalpable sulphur dust, thereby making a big saving in the quantity of suphur required.

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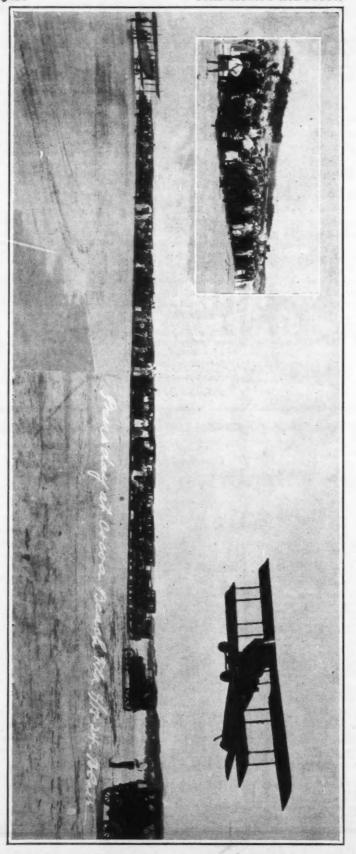
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Special: Columbia in cabinet models \$110.00 and up.

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Terms will be arranged to suit your utmost convenience. Shipments made to any part of the state—promptly and safely.



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Citrus Prices Will be Good This Fall and Winter

It always stops raining— Just because this last years crop didn't bring as good money as we looked for, is no reason why we all should quit and neglect cultivation—fertilizing—irrigating—etc., of our groves.

HOWEVER

You will be the looser, if you do not write us and get our prices on most any kind of machinery, tools, etc. If you are a "Wee Bit" short of cash, we can arrange terms to take care of you—most anyone will try something once—write us and get our price on what you want. Tractors—large and small—enclosed for sand—and safe for your son to drive—they don't rear back and injure or kill driver.

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Office Economy Index

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Phone 2968

through severe drought without any apparent weakening of the tree.

Fourth this stock seems to be immune to scab and foot-rot.

Mr. Reasoner, of Oneco (to whom we are indebted for the introduction of this variety as a stock) says that the size of the fruit is fully as large on Cleopatra root as on lemon or sour where ever the crops are similar enough in amount to be comparable.

I believe its habit of becoming thoroughly dormant in the winter is a valuable one for two reasons. First trees budded on it are likely to be more consistent croppers than those budded on stocks which keep growing during the warm winters. And second, trees budded on this stock will retain their quality, juice and character much later in the season than trees budded on lemon or even on sour or-

The rate of growth of Cleopatra seems to lie between sour orange and rough lemon, and approaches the latter so closely even on sandy soils as to make this advantage of lemon quite negligible when the other advantages of Cleopatra are considered. I don't believe there is anything that promises so much for the salvation of the lemon root groves on the sand ridges as does this inarching of Cleopatra seedlings.

I believe it is to be the coming stock for citrus in this state and that it is superior to anything else we have for 95 cases out of 100.

The methods used for calculat-Note: Note: The methods used for calculating and comparing the volume of top of the trees in the table of comparison for 1922 was not the sams as for 1919, and while any figure for either year is comparable with any other for the same year, it is not a basis for comparing the actual size of the tree in 1922 with its size in 1414

American farmers, as a rule, buy all their supplies at retail prices, owing to a lack of cash; and they sell everything they produce at wholesale prices, also on account of financial weakness. This is suicidal and tends to underproduction.-Selected.

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THE CITRUS INDUSTRY

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Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 192, of The Citrus industry, published monthly at Tampa, Florida, for April 1, 1924. State of Florida, County of Hillsborough.

Before me, a Notary Public, in and for the state and county aforesaid, personally appeared S. L. Frisbie, who, having been duly sworn according to law, deposes and says that he is the editor of The Citrus Industry, and that the following is, to the best of his knowledge and belief, a true statement of the ownership management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1—That the names and addresses of the publisher, editor, managing editor and buisness manager are:

Publisher, Associated Publications Corporation, Tampa, Florida.

Editor, S. L. Frisbie, Tampa, Fla.

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3—That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities.

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Chas. Scott, Bartow, Florida.
Sworn to and subscribed before me this 29th day of March, 1924.
(Seal)
ARTHUR M. SCHANZ,
Notary Public.